

STN search for 10665009

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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 13:46:03 ON 28 OCT 2004

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 13:46:13 ON 28 OCT 2004

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STRUCTURE FILE UPDATES: 27 OCT 2004 HIGHEST RN 770693-70-4

DICTIONARY FILE UPDATES: 27 OCT 2004 HIGHEST RN 770693-70-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> s biphenol

L1 603 BIPHENOL

STN search for 10665009

=> d 603

L1 ANSWER 603 OF 603 REGISTRY COPYRIGHT 2004 ACS on STN

RN 92-88-6 REGISTRY

CN [1,1'-Biphenyl]-4,4'-diol (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 4,4'-Biphenyldiol (8CI)

OTHER NAMES:

CN 4,4'-Biphenol

CN 4,4'-Bisphenol

CN 4,4'-Dihydroxy-1,1'-biphenyl

CN 4,4'-Dihydroxybiphenyl

CN 4,4'-Dihydroxydiphenyl

CN 4,4'-Diphenol

CN 4-(4-Hydroxyphenyl)phenol

CN Antioxidant DOD

CN ASM DOD

CN B 0464

CN BPL

CN BPL (phenol)

CN DOD

CN NSC 8711

CN p,p'-Biphenol

CN p,p'-Dihydroxybiphenyl

CN p,p'-Diphenol

CN p-Dihydroxydiphenyl

CN p-Diphenol

FS 3D CONCORD

MF C12 H10 O2

CI COM

LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHM, CSNB, DETHERM\*, EMBASE, GMELIN\*, HODOC\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PROMT, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, ULIDAT, USPAT2, USPATFULL

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA CAPLUS document type: Conference; Journal; Patent; Report

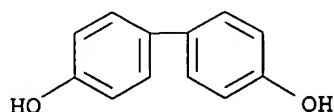
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

STN search for 10665009



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1719 REFERENCES IN FILE CA (1907 TO DATE)  
122 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1723 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
34 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> s hydrogenated biphenol  
1884 HYDROGENATED  
603 BIPHENOL  
L2 0 HYDROGENATED BIPHENOL  
(HYDROGENATED (W) BIPHENOL)

=> s cyclohexane  
L3 218681 CYCLOHEXANE

=> s l3 and hydroxy  
3108845 HYDROXY  
L4 43959 L3 AND HYDROXY

=> s l4 dihydroxy and dicyclohexane  
MISSING OPERATOR

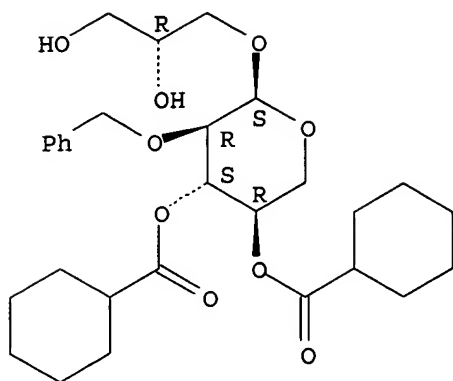
=> s dihydroxy and dicyclohexane  
339571 DIHYDROXY  
115 DICYCLOHEXANE  
L5 8 DIHYDROXY AND DICYCLOHEXANE

=> d 1-8

L5 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 270580-84-2 REGISTRY  
CN  $\alpha$ -D-Xylopyranoside, (2R)-2,3-dihydroxypropyl  
2-O-(phenylmethyl)-, 3,4-dicyclohexanecarboxylate (9CI) (CA INDEX  
NAME)  
FS STEREOSEARCH  
MF C29 H42 O9  
SR CA  
LC STN Files: CA, CAPLUS  
DT.CA Caplus document type: Journal  
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.

STN search for 10665009

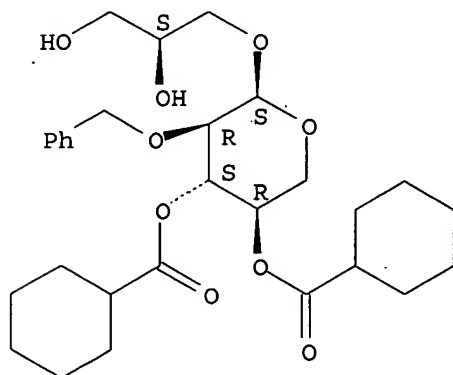


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 196859-48-0 REGISTRY  
CN  $\alpha$ -D-Xylopyranoside, (2S)-2,3-dihydroxypropyl  
2-O-(phenylmethyl)-, 3,4-dicyclohexanecarboxylate (9CI) (CA INDEX  
NAME)  
FS STEREOSEARCH  
MF C29 H42 O9  
SR CA  
LC STN Files: CA, CAPLUS  
DT.CA Caplus document type: Journal  
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

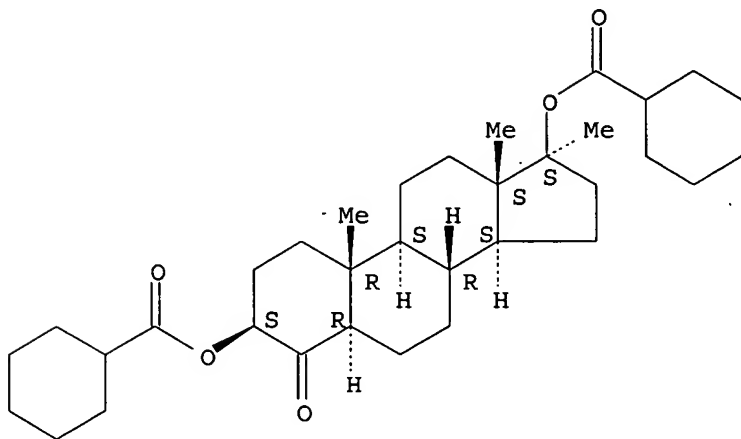
2 REFERENCES IN FILE CA (1907 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

STN search for 10665009

RN 122651-00-7 REGISTRY  
CN 5 $\alpha$ -Androstan-4-one, 3 $\beta$ ,17 $\beta$ -dihydroxy-17-methyl-,  
dicyclohexanecarboxylate (6CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C34 H52 O5  
SR CAOLD  
LC STN Files: CAOLD

Absolute stereochemistry.



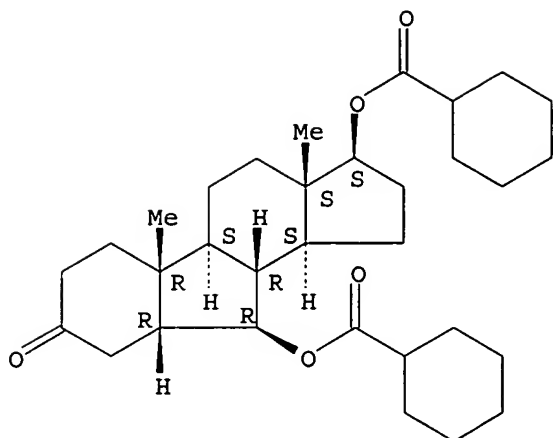
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 106066-62-0 REGISTRY  
CN B-Nor-5 $\beta$ -androstan-3-one, 6 $\beta$ ,17 $\beta$ -dihydroxy-,  
dicyclohexanecarboxylate (7CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C32 H48 O5  
SR CAOLD  
LC STN Files: CA, CAOLD, CAPLUS  
DT.CA Caplus document type: Journal  
RL.NP Roles from non-patents: NORL (No role in record)

Absolute stereochemistry.

STN search for 10665009

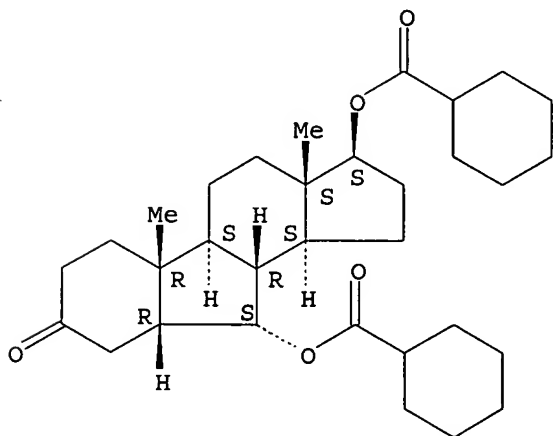


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 106066-61-9 REGISTRY  
CN **B-Nor-5β-androstan-3-one, 6α,17β-dihydroxy-,  
dicyclohexanecarboxylate (7CI)** (CA INDEX NAME)  
FS STEREOSEARCH  
MF C32 H48 O5  
SR CAOLD  
LC STN Files: CA, CAOLD, CAPLUS  
DT.CA Caplus document type: Journal  
RL.NP Roles from non-patents: NORL (No role in record)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

STN search for 10665009

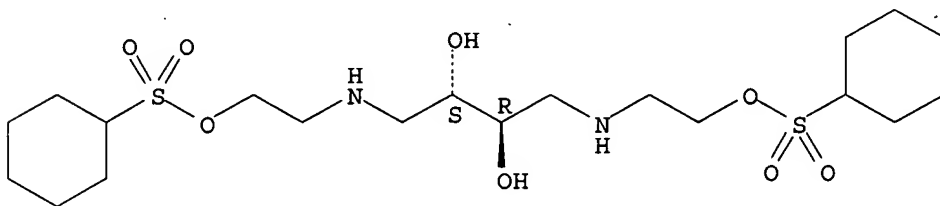
1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 33156-12-6 REGISTRY  
CN Cyclohexanesulfonic acid, compd. with (R\*,S\*)-(2,3-dihydroxy-1,4-butanediyl)bis(imino-2,1-ethanediyl) dicyclohexanesulfonate (2:1) (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Cyclohexanesulfonic acid, (2,3-dihydroxy-1,4-butanediyl)bis(imino-2,1-ethanediyl) ester, (R\*,S\*)-, dicyclohexanesulfonate (salt) (9CI)  
CN Erythritol, 1,4-dideoxy-1,4-bis[(2-hydroxyethyl)amino]-, 1,4-dicyclohexanesulfonate (ester), dicyclohexanesulfonate (salt) (8CI)  
FS STEREOSEARCH  
MF C20 H40 N2 O8 S2 . 2 C6 H12 O3 S  
LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, TOXCENTER (\*File contains numerically searchable property data)  
DT.CA Caplus document type: Conference; Journal; Patent  
RL.P Roles from patents: PREP (Preparation)  
RL.NP Roles from non-patents: BIOL (Biological study); USES (Uses)

CM 1

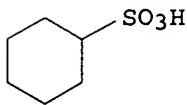
CRN 47698-43-1  
CMF C20 H40 N2 O8 S2

Relative stereochemistry.



CM 2

CRN 6922-46-9  
CMF C6 H12 O3 S

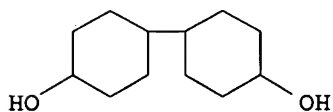


6 REFERENCES IN FILE CA (1907 TO DATE)  
6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 20601-38-1 REGISTRY  
CN [1,1'-Bicyclohexyl]-4,4'-diol (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN [Bicyclohexyl]-4,4'-diol (6CI, 8CI)  
OTHER NAMES:

STN search for 10665009

CN 4,4'-Bicyclohexanediol  
CN 4,4'-Dihydroxybicyclohexyl  
CN 4,4'-Dihydroxydicyclohexane  
CN Bis(4-hydroxycyclohexyl)  
FS 3D CONCORD  
MF C12 H22 O2  
CI COM  
LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSChem, IFICDB, IFIPAT, IFIUDb, MSDS-OHS, TOXCENTER, USPAT2, USPATFULL  
(\*File contains numerically searchable property data)  
Other Sources: EINECS\*\*  
(\*Enter CHEMLIST File for up-to-date regulatory information)  
DT.CA Caplus document type: Journal; Patent  
RL.P Roles from patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)  
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent); NORL (No role in record)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

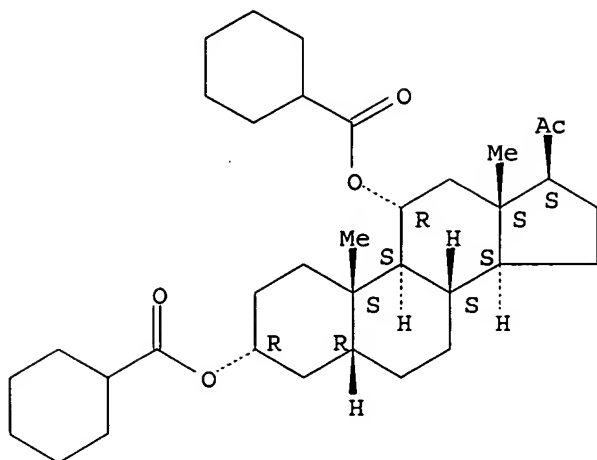
37 REFERENCES IN FILE CA (1907 TO DATE)  
37 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 991-64-0 REGISTRY  
CN 5 $\beta$ -Pregnan-20-one, 3 $\alpha$ ,11 $\alpha$ -dihydroxy-, dicyclohexanecarboxylate (7CI, 8CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C35 H54 O5  
LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS  
(\*File contains numerically searchable property data)  
DT.CA Caplus document type: Patent  
RL.P Roles from patents: NORL (No role in record)

Absolute stereochemistry.



STN search for 10665009



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	49.04	49.25

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DICTIONARY FILE UPDATES: 27 OCT 2004 HIGHEST RN 770693-70-4

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> S 20601-38-1/RN

L6 1 20601-38-1/RN

STN search for 10665009

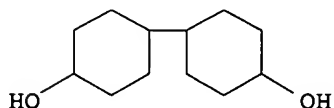
=> SET NOTICE 1 DISPLAY

NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND  
SET COMMAND COMPLETED

=> D L6 SQIDE 1-

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y  
THE ESTIMATED COST FOR THIS REQUEST IS 5.92 U.S. DOLLARS  
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L6 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 20601-38-1 REGISTRY  
CN [1,1'-Bicyclohexyl]-4,4'-diol (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN [Bicyclohexyl]-4,4'-diol (6CI, 8CI)  
OTHER NAMES:  
CN 4,4'-Bicyclohexanediol  
CN 4,4'-Dihydroxybicyclohexyl  
CN 4,4'-Dihydroxydicyclohexane  
CN Bis(4-hydroxycyclohexyl)  
FS 3D CONCORD  
MF C12 H22 O2  
CI COM  
LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST,  
CSCHEM, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, TOXCENTER, USPAT2, USPATFULL  
(\*File contains numerically searchable property data)  
Other Sources: EINECS\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)  
DT.CA Caplus document type: Journal; Patent  
RL.P Roles from patents: BIOL (Biological study); FORM (Formation,  
nonpreparative); PREP (Preparation); RACT (Reactant or reagent); USES  
(Uses); NORL (No role in record)  
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent);  
NORL (No role in record)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

37 REFERENCES IN FILE CA (1907 TO DATE)  
37 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND  
SET COMMAND COMPLETED

=>

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

STN search for 10665009

	ENTRY	SESSION
FULL ESTIMATED COST	2.19	51.44

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TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

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information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d his

(FILE 'HOME' ENTERED AT 13:46:03 ON 28 OCT 2004)

FILE 'REGISTRY' ENTERED AT 13:46:13 ON 28 OCT 2004

L1 603 S BIPHENOL  
L2 0 S HYDROGENATED BIPHENOL  
L3 218681 S CYCLOHEXANE  
L4 43959 S L3 AND HYDROXY  
L5 8 S DIHYDROXY AND DICYCLOHEXANE

FILE 'REGISTRY' ENTERED AT 13:49:24 ON 28 OCT 2004

L6 1 S 20601-38-1/RN  
SET NOTICE 1 DISPLAY  
SET NOTICE LOGIN DISPLAY

FILE 'REGISTRY' ENTERED AT 13:49:47 ON 28 OCT 2004

=> s l6

L7 1 20601-38-1/RN

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	51.86

FILE 'CAPLUS' ENTERED AT 13:50:02 ON 28 OCT 2004  
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FILE COVERS 1907 - 28 Oct 2004 VOL 141 ISS 18  
FILE LAST UPDATED: 27 Oct 2004 (20041027/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l6

L8 37 L6

=> d all 1-37

L8 ANSWER 1 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:5194 CAPLUS  
DN 140:78505  
ED Entered STN: 05 Jan 2004  
TI Dimeric azo pyridone colorants  
IN Carlini, Rina; Banning, Jeffrey H.; Duff, James M.; Wu, Bo; Mayo, James D.  
PA Xerox Corporation, USA  
SO Eur. Pat. Appl., 75 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC ICM C09B033-12  
CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
Section cross-reference(s): 27, 42

FAN.CNT 1

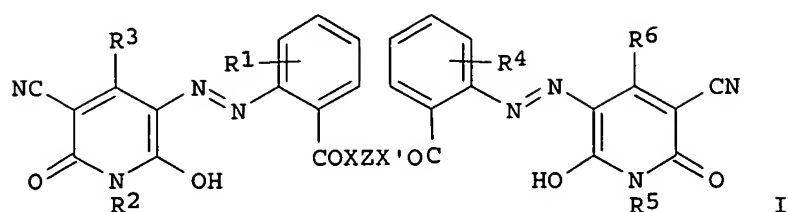
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1375599	A1	20040102	EP 2003-14098	20030623
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2004010058	A1	20040115	US 2002-185994	20020627
	US 6713614	B2	20040330		
	JP 2004075678	A2	20040311	JP 2003-175937	20030620
	BR 2003001684	A	20040824	BR 2003-1684	20030627
PRAI	US 2002-185994	A	20020627		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1375599	ICM	C09B033-12
EP 1375599	ECLA	C09B035/031; C09B035/039
US 2004010058	ECLA	C09B035/031; C09B035/039
JP 2004075678	FTERM	4C055/AA04; 4C055/BA03; 4C055/BA42; 4C055/CA03; 4C055/CA54; 4C055/CA59; 4C055/CB17; 4C055/DA06; 4C055/EA01

OS MARPAT 140:78505

GI



- AB Disclosed are disazo colorants (I; R1, R4 = H, halogen, nitro, organic group; R2, R5 = organic group; R3, R6 = alkyl, aryl, alkylaryl, arylalkyl; X, X' = O, S, imino; Z = organic or Si-containing connecting group). I are yellow colorants useful in applications such as phase change inks and have good fastness and application properties as well as thermal stability. In an example, Pripol 2033 was esterified with isatoic anhydride to give the dianthranilate, which was then tetrazotized and coupled with 3-cyano-N-dodecyl-6-hydroxy-4-methyl-2-pyridone to provide a yellow disazo colorant.
- ST dimeric azo pyridone colorant phase change ink
- IT Pigments, nonbiological  
(azo; dimeric azo pyridone colorants)
- IT Azo dyes  
(dimeric azo pyridone colorants)
- IT Inks  
(hot-melt; production of dimeric azo pyridone colorants for)
- IT 105-56-6, Ethyl cyanoacetate 111-86-4, Octylamine 124-22-1, Dodecylamine 124-30-1, Octadecylamine 141-97-9, Ethyl acetoacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling component starting material; production of dimeric azo pyridone colorants)
- IT 55621-53-9P 64134-90-3P 87980-25-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(coupling component; production of dimeric azo pyridone colorants)
- IT 539857-79-9 539857-81-3 539857-82-4 539857-83-5 639522-50-2 639522-51-3 639522-52-4  
RL: TEM (Technical or engineered material use); USES (Uses)  
(dimeric azo pyridone colorants)
- IT 118-48-9DP, Isatoic anhydride, esters with Pripol 2033, tetrazotized, coupling products with pyridones 158516-85-9DP, Pripol 2033, dianthranilate esters, tetrazotized, coupling products with pyridones 539857-80-2P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(production of dimeric azo pyridone colorants)
- IT 80-04-6, 4,4'-Isopropylidenedicyclohexanol 105-08-8, 1,4-Cyclohexanedimethanol 112-47-0, 1,10-Decanediol 118-48-9, Isatoic anhydride 629-11-8, 1,6-Hexanediol 4457-71-0, 3-Methyl-1,5-pentanediol 5675-51-4, 1,12-Dodecanediol 20601-38-1, 4,4'-Bicyclohexanediol 28132-01-6 630390-30-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(tetrazo component starting material; production of dimeric azo pyridone colorants)
- IT 38329-93-0P 539857-97-1P 630390-25-9P 630390-26-0P 630390-27-1P 630390-28-2P 630390-29-3P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

STN search for 10665009

(tetrazo component; production of dimeric azo pyridone colorants)  
IT 64134-90-3DP, coupling products with Pripol 2033 dianthranilate  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(yellow colorant; production of dimeric azo pyridone colorants)  
IT 539856-37-6P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(yellow colorant; production of dimeric azo pyridone colorants)  
IT 87980-25-4DP, coupling products with Pripol 2033 dianthranilate  
539856-38-7P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(yellow-orange colorant; production of dimeric azo pyridone colorants)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Basf Ag; GB 1455632 A 1976 CAPLUS
- (2) Basf Ag; EP 0268897 A 1988 CAPLUS
- (3) Basf Ag; EP 0314002 A 1989 CAPLUS
- (4) Cassella Farbwerke Mainkur Ag; EP 0302401 A 1989 CAPLUS
- (5) Ici Plc; EP 0247737 A 1987 CAPLUS
- (6) Mitsui Toatsu Chemicals; EP 0319234 A 1989 CAPLUS

L8 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:980769 CAPLUS

DN 140:17594

ED Entered STN: 17 Dec 2003

TI Phase change inks containing dimeric azo pyridone colorants

IN Wu, Bo; Carlini, Rina; Banning, Jeffrey H.; Duff, James M.; Mayo, James  
D.; Thomas, Jule W., Jr.; Smith, Paul F.; Meinhardt, Michael B.

PA Xerox Corporation, USA

SO U.S., 57 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C09D011-00

NCL 106031290; 106031610; 106031480; 106031770; 106031430; 106031750

CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
Sensitizers)

Section cross-reference(s): 42

FAN.CNT 1

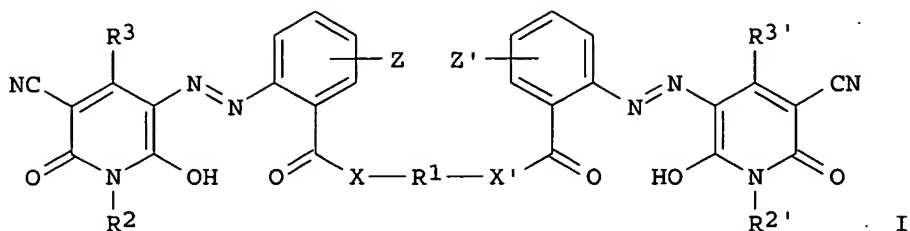
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6663703	B1	20031216	US 2002-184269	20020627
	JP 2004027231	A2	20040129	JP 2003-175938	20030620
	EP 1375610	A1	20040102	EP 2003-14094	20030623
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	BR 2003002125	A	20040817	BR 2003-2125	20030627
PRAI	US 2002-184269	A	20020627		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6663703	ICM	C09D011-00
	NCL	106031290; 106031610; 106031480; 106031770; 106031430; 106031750
JP 2004027231	FTERM	4J039/BC32; 4J039/BC39; 4J039/BE01; 4J039/BE02
EP 1375610	ECLA	C09D011/00C4; C09D011/00C2D

OS MARPAT 140:17594

GI



- AB Disclosed is a phase change ink composition comprising a phase change ink carrier and a colorant compound of the formula I [R1 = alkyne, arylene, arylalkylene, alkylarylene, alkyleneoxy, aryleneoxy, arylalkyleneoxy, polyalkyleneoxy, polyaryleneoxy, polyaryleneoxy, polyaryleneoxy, heterocyclic, silylene, siloxane, polysilylene, polysiloxane group; R2, R2' = alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy group, arylalkyloxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy, polyaryleneoxy, polyalkyleneoxy, heterocyclic, silyl, siloxane, polysilylene, polysiloxane, etc.; R3, R3' = alkyl, aryl, arylalkyl, alkylaryl group; X, X' = direct bond, O, S, N-containing linking group, alkylidene group; Z, Z' = H, halogen, nitro, alkyl, aryl, arylalkyl, alkylaryl, etc.].
- ST dimeric azo pyridone colorant phase changeable ink
- IT Inks  
(jet-printing; manufacture of phase change inks containing dimeric azo pyridone colorants)
- IT Azo dyes  
(manufacture of phase change inks containing dimeric azo pyridone colorants)
- IT 118-48-9DP, Isatoic anhydride, reaction products with dimer diol compds., coupling products with alkylpyridone  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(colorants; manufacture of phase change inks containing dimeric azo pyridone colorants)
- IT 7782-78-7, Nitrosylsulfuric acid  
RL: RGT (Reagent); RACT (Reactant or reagent)  
(diazotizing agent; manufacture of phase change inks containing dimeric azo pyridone colorants)
- IT 38329-93-0P 539857-97-1P 630390-25-9P 630390-26-0P 630390-27-1P 630390-28-2P 630390-29-3P 630390-30-6P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(manufacture of phase change inks containing dimeric azo pyridone colorants)
- IT 5444-02-0DP, substituted and derivatized compds. 64134-90-3DP, cyano compound, coupling products with isatoic anhydride dimer diol adducts 87980-25-4DP, coupling products with isatoic anhydride dimer diol adducts 158516-85-9DP, Pripol 2033, reaction products with isatoic anhydride, coupling products with (diazotized) alkylpyridone 539857-79-9P 539857-80-2P 539857-81-3P 539857-82-4P 539857-83-5P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manufacture of phase change inks containing dimeric azo pyridone colorants)
- IT 80-04-6, 4,4'-Isopropylidenedicyclohexanol 105-08-8, 1,4-Cyclohexanedimethanol 105-56-6, Ethyl cyanoacetate 112-47-0, 1,10-Decanediol 118-48-9, Isatoic anhydride 124-22-1, Dodecylamine 124-30-1, Octadecylamine 629-11-8, 1,6-Hexanediol 4457-71-0,

STN search for 10665009

3-Methyl-1,5-pentanediol 5675-51-4, 1,12-Dodecanediol 20601-38-1  
, [1,1'-Bicyclohexyl]-4,4'-diol 28132-01-6, 4,8-  
Bis(hydroxymethyl)tricyclo(5.2.1.0<sup>2,6</sup>)decane  
RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of phase change inks containing dimeric azo pyridone colorants)

RE.CNT 88 THERE ARE 88 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; GB 2008606 A 1979 CAPLUS
- (2) Anon; IN 147868 1980 CAPLUS
- (3) Anon; GB 1559001 1980 CAPLUS
- (4) Anon; EP 0023770 A1 1981 CAPLUS
- (5) Anon; EP 0083553 A1 1982 CAPLUS
- (6) Anon; EP 0142863 B1 1985 CAPLUS
- (7) Anon; EP 0172283 A1 1986 CAPLUS
- (8) Anon; EP 0187352 A2 1986 CAPLUS
- (9) Anon; EP 0206286 A1 1986 CAPLUS
- (10) Anon; DE 3538517 A1 1986 CAPLUS
- (11) Anon; JP 61244595 1986 CAPLUS
- (12) Anon; EP 0247737 A1 1987 CAPLUS
- (13) Anon; JP 62290762 1987 CAPLUS
- (14) Anon; EP 0302401 A1 1988 CAPLUS
- (15) Anon; EP 268897 1988 CAPLUS
- (16) Anon; JP 2185569 1990
- (17) Anon; EP 0314002 B1 1991 CAPLUS
- (18) Anon; EP 0468647 B1 1992 CAPLUS
- (19) Anon; JP 5051536 1993
- (20) Anon; JP 5169849 1993
- (21) Anon; EP 0404493 B1 1994 CAPLUS
- (22) Anon; WO 9404619 1994 CAPLUS
- (23) Anon; EP 0319234 B1 1995 CAPLUS
- (24) Anon; EP 0524637 B1 1996 CAPLUS
- (25) Anon; EP 0529282 B1 1996
- (26) Anon; JP 8011443 1996
- (27) Anon; EP 0706679 B1 1997 CAPLUS
- (28) Anon; KR 119563 1997 CAPLUS
- (29) Anon; WO 9943754 1999 CAPLUS
- (30) Anon; EP 0844287 B1 2000 CAPLUS
- (31) Anon; JP 2000239549 2000 CAPLUS
- (32) Anon; WO 0109256 A1 2001 CAPLUS
- (33) Anon; WO 0121714 A2 2001 CAPLUS
- (34) Anon; EP 1125990 A1 2001 CAPLUS
- (35) Anon; EP 1168046 A1 2002 CAPLUS
- (36) Anon; Bull Chem Soc Jpn 1993, V66(6), P1790
- (37) Ayyangar, N; Colourage 1990, V37(2), P29 CAPLUS
- (38) Ball; US 4684956 A 1987 CAPLUS
- (39) Banning, J; Copending application U S Ser No 10/185,264 2002
- (40) Banning, J; Copending application U S Ser No 10/186,024 2002
- (41) Battisti; US 4216145 A 1980 CAPLUS
- (42) Berry; US 3653932 A 1972 CAPLUS
- (43) Bo Wu; Copending application U S Ser No 10/184,266 2002
- (44) Bobbitt, J; J Org Chem 1960, V25, P560 CAPLUS
- (45) Burkhard; US 4083842 A 1978
- (46) Chapman; US 4734349 A 1988 CAPLUS
- (47) Chen, C; Dyes and Pigments 1991, V15, P69 CAPLUS
- (48) Cheng, L; Dyes and Pigments 1986, V7(5), P373 CAPLUS
- (49) Coppola, G; Synthesis 1980, P505 CAPLUS
- (50) Etzbach; US 4994564 A 1991 CAPLUS
- (51) Evans; US 5041413 A 1991 CAPLUS
- (52) Griebel; US 5496879 A 1996 CAPLUS
- (53) Hansen; US 5066791 A 1991 CAPLUS



STN search for 10665009

(54) Jaeger; US 4889560 A 1989 CAPLUS  
(55) Jaeger; US 5621022 A 1997 CAPLUS  
(56) Jaeger; US 5902841 A 1999 CAPLUS  
(57) Kanhere, J; Indian Journal of Textile Research 1988, V13, P213 CAPLUS  
(58) Koren, A; Chem Mater 2000, V12, P1519 CAPLUS  
(59) Lee; US 5929218 A 1999 CAPLUS  
(60) Lienhard; US 4359418 A 1982 CAPLUS  
(61) Loeffler; US 4380452 A 1983 CAPLUS  
(62) Lorenz; US 4739042 A 1988 CAPLUS  
(63) Mamak, I; Indian 1980, P1  
(64) Mayo, J; Copending application U S Ser No 10/185,597 2002  
(65) Merritt; US 4390369 A 1983 CAPLUS  
(66) Merritt; US 4484948 A 1984 CAPLUS  
(67) Meyrick; US 6406526 B1 2002 CAPLUS  
(68) Mijin, D; J Serb Chem Soc 1994, V59(12), P959 CAPLUS  
(69) Moser; US 5037964 A 1991 CAPLUS  
(70) Rina, C; Copending application U S Ser No 10/185,261 2002  
(71) Rina, C; Copending application U S Ser No 10/185,828 2002  
(72) Rina, C; Copending application U S Ser No 10/185,994 2002  
(73) Rina, C; Copending application U S Ser No 10/186,023  
(74) Schwarz; US 5006170 A 1991 CAPLUS  
(75) Shimidzu; US 4644058 A 1987 CAPLUS  
(76) Slosar, P; CHEMagazin 1999, V9(6), P8 CAPLUS  
(77) Staiger, R; J Org Chem 1959, V24, P1214 CAPLUS  
(78) Taniguchi; US 4851045 A 1989 CAPLUS  
(79) Titterington; US 4889761 A 1989  
(80) Titterington; US 5372852 A 1994 CAPLUS  
(81) Titterington; US 5827918 A 1998 CAPLUS  
(82) Titterington; US 5919839 A 1999 CAPLUS  
(83) Von Brachel; US 3957749 A 1976 CAPLUS  
(84) Von Brachel; US 4247456 A 1981 CAPLUS  
(85) Wang, H; J Am Chem Soc 2000, V122, P6855 CAPLUS  
(86) Wang, S; J Am Chem Soc 2000, V120, P5695  
(87) Williams; US 5221335 A 1993 CAPLUS  
(88) You; US 5151120 A 1992 CAPLUS

L8 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:194471 CAPLUS

DN 138:223690

ED Entered STN: 12 Mar 2003

TI Use of inorganic fine particle dispersant

IN Ono, Takashi; Hayashi, Toyoharu; Tamai, Masashi

PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C01G023-047

ICS C01G009-02; C08J003-215; C08L101-00

CC 49-10 (Industrial Inorganic Chemicals)

Section cross-reference(s): 48

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003073122	A2	20030312	JP 2001-266730	20010904
PRAI	JP 2001-266730		20010904		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003073122	ICM	C01G023-047

STN search for 10665009

ICS C01G009-02; C08J003-215; C08L101-00

AB TiO<sub>2</sub> or ZnO fine particles (diameter 1-200 nm) are suspended in 1-butanol with ultrasound, heated at ≥50° for 1-600 min., and mixed with a solvent having a dipole moment 0.2-4.5 Debye. The inorg. particles are homogeneously dispersed in a clear solution. The dispersant is applied to various types of organic and inorg. synthesis.

ST inorg fine particle dispersant polymer synthesis

IT Dipole moment  
Sound and Ultrasound  
(use of inorg. fine particle dispersant)

IT Polycarbonates, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(use of inorg. fine particle dispersant)

IT 139500-88-2P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(use of inorg. fine particle dispersant)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-66-3, Chloroform, uses 68-12-2, N,N-Dimethyl formamide, uses 75-09-2, Dichloromethane, uses 75-44-5, Phosgene 79-09-4, Propionic acid, uses 80-73-9, 108-88-3, Toluene, uses 110-82-7, Cyclohexane, uses 110-86-1, Pyridine, uses 872-50-4, N-Methyl 2-pyrrolidone, uses 7550-45-0, Titanium tetrachloride, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(use of inorg. fine particle dispersant)

IT 71-36-3, 1-Butanol, reactions 1314-13-2, Zinc oxide, reactions 13463-67-7, Titanium oxide, reactions 20601-38-1, 4,4'-Bicyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(use of inorg. fine particle dispersant)

L8 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:479978 CAPLUS

DN 137:46946

ED Entered STN: 26 Jun 2002

TI Preparation of bis(4-oxocyclohexyls)

IN Sugiyama, Kenji; Kawasaki, Shinsaku; Egawa, Takeshi

PA Honshu Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C07C045-39  
ICS C07C049-417; C07B061-00

CC 24-5 (Alicyclic Compounds)

FAN.CNT 1

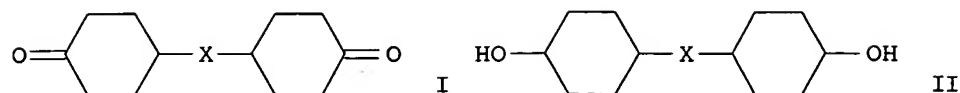
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002179609	A2	20020626	JP 2000-381711	20001215
PRAI	JP 2000-381711		20001215		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002179609	ICM	C07C045-39
	ICS	C07C049-417; C07B061-00

OS CASREACT 137:46946; MARPAT 137:46946

GI



- AB The compds. I (X = single bond, CR<sub>1</sub>R<sub>2</sub>, O, SO<sub>2</sub>; R<sub>1</sub>, R<sub>2</sub> = H, C1-6 alkyl, C5-6 cycloalkyl, Ph) are prepared by dehydrogenation of bis(4-hydroxycyclohexyls) II (X = same as I) in the presence of copper oxide catalysts in unsatd. ketone solvents containing C:C double bond conjugated with C:O double bond. 2,2-Bis(4-hydroxycyclohexyl)propane was dehydrogenated in the presence of copper-chromium oxide catalyst (N 203SD) in isophorone at 200° for 7 h to give 96.6% 2,2-bis(4-oxocyclohexyl)propane.
- ST oxocyclohexyl prepn; hydroxycyclohexyl dehydrogenation copper catalyst ketone solvent
- IT Dehydrogenation  
(preparation of bis(oxocyclohexyls))
- IT 1314-13-2, Zinc oxide, uses 1344-70-3, Copper oxide 11118-57-3, Chromium oxide 125623-21-4, N 203SD  
RL: CAT (Catalyst use); USES (Uses)  
(catalyst; preparation of bis(oxocyclohexyls))
- IT 7418-16-8P, 2,2-Bis(4-oxocyclohexyl)propane 9002-88-4P, R/X 213  
23391-99-3P, Bis(4-oxocyclohexyl)  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(preparation of bis(oxocyclohexyls))
- IT 80-04-6, 2,2-Bis(4-hydroxycyclohexyl)propane 20601-38-1, Bis(4-hydroxycyclohexyl)  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of bis(oxocyclohexyls))
- IT 78-59-1, Isophorone 504-20-1, Phorone  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; preparation of bis(oxocyclohexyls))
- L8 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN
- AN 2001:541104 CAPLUS
- DN 136:153067
- ED Entered STN: 27 Jul 2001
- TI Synthesis of bicyclohexane-4,4'-dione mono-ethyleneketal
- AU Xu, Xiao-ming; Tang, Hong; Chen, Bing; Xu, Shou-yi
- CS Department of Chemistry, Tsinghua University, Beijing, 100084, Peop. Rep. China
- SO Jingxi Huagong (2001), 18(6), 354-355, 368  
CODEN: JIHUFJ; ISSN: 1003-5214
- PB Jingxi Huagong Bianjibu
- DT Journal
- LA Chinese
- CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
- AB Bicyclohexane-4,4'-dione was synthesized and the carbonyl groups were partially protected. Bicyclohexane-4,4'-diol was oxidized to bicyclohexane-4,4'-dione in 75.4% yield by using chromic acid at 30°C for 3 h. Under the catalysis of potassium bisulfate, bicyclohexane-4,4'-dione was subjected to dehydrating condensation with ethylene glycol [n(bicyclohexane-4,4'-dione):n(ethylene glycol) = 1.2:1.0]. The unprotected material was partially removed by aqueous sodium bisulfite solution from the toluene solution. By using high concentration aqueous sodium bisulfite solution, bisulfite addition product of bicyclohexane-4,4'-dione

STN search for 10665009

mono-ethyleneketal formed in Et acetate. The addition product was treated with 100 g/L aqueous ammonia to obtain bicyclohexane-4,4'-dione mono-ethyleneketal with overall yield of 31% and purity of 99.7% by GC.

ST bicyclohexanedione monoethyleneketal prepn  
IT 56309-94-5P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(synthesis of bicyclohexane-4,4'-dione mono-ethyleneketal)

IT 23391-99-3P, [1,1'-Bicyclohexyl]-4,4'-dione  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(synthesis of bicyclohexane-4,4'-dione mono-ethyleneketal)

IT 20601-38-1, [1,1'-Bicyclohexyl]-4,4'-diol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis of bicyclohexane-4,4'-dione mono-ethyleneketal)

L8 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:225519 CAPLUS  
DN 134:259213  
ED Entered STN: 30 Mar 2001  
TI Positive-working photoresist resin composition containing acid-sensitive solubility-controlling agent  
IN Tan, Shiro; Fujimori, Toru  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 34 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM G03F007-039  
ICS G03F007-004; H01L021-027  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001083709	A2	20010330	JP 1999-255798	19990909
PRAI	JP 1999-255798		19990909		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001083709	ICM	G03F007-039
	ICS	G03F007-004; H01L021-027

AB The composition contains an acid-sensitive solubility-controlling agent, a photoacid

generator, a solvent, and an alkali soluble resin. The acid-sensitive solubility-controlling agent has structure (HO)a-R1-[-O-CH(CH3)-O-Ar]n-a (n≥2 integer; R1 = n valent orgs.; Ar = aryl; a≥0 integer; (n-a)≥1 integer). The addition of acid-sensitive solubility-controlling agent to the composition provides a pattern of the improved line edge roughness, the high sensitivity, and the high resolu to the photoresist.

ST pos photoresist resin compn acid sensitive soly controlling agent

IT Light-sensitive materials  
Photomasks (lithographic masks)  
Photoresists

(pos.-working photoresist resin composition containing acid-sensitive solubility controlling agent)

IT 80-04-6, 2,2-Bis(4-hydroxycyclohexyl)propane 98-54-4, p-tert-Butylphenol 108-95-2, Phenol, reactions 126-30-7, 2,2-Dimethyl-1,3-propanediol 126-58-9, Dipentaerythritol 556-48-9, 1,4-Cyclohexanediol 626-18-6, 1,3-Benzenedimethanol 20601-38-1, 4,4'-Dihydroxydicyclohexane

STN search for 10665009

23235-61-2, Ditrimehylolpropane

RL: RCT (Reactant); RACT (Reactant or reagent)

(acid-sensitive solubility controlling agent in pos.-working photoresist resin composition)

IT 331669-60-4P 331669-61-5P 331669-62-6P 331669-64-8P 331669-66-0P  
331669-68-2P 331669-70-6P 331669-72-8P 331669-74-0P 331669-76-2P  
331669-78-4P 331669-80-8P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(acid-sensitive solubility controlling agent in pos.-working photoresist resin composition)

L8 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:772658 CAPLUS

DN 133:335462

ED Entered STN: 03 Nov 2000

TI Preparation of cyclic hexapeptides having antibiotic activity

IN Tojo, Takashi; Ohki, Hidenori; Shiraishi, Nobuyuki; Matsuya, Takahiro; Matsuda, Hiroshi; Murano, Kenji; Barrett, David; Ogino, Takashi; Matsuda, Keiji; Ichihara, Masaharu; Hashimoto, Norio; Kanda, Atsushi; Ohigashi, Atsushi

PA Fujisawa Pharmaceutical Co., Ltd., Japan

SO PCT Int. Appl., 449 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07K007-56

ICS A61K038-12; A61P031-00

CC 34-3 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 1, 10

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000064927	A1	20001102	WO 2000-JP2710	20000425
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1173472	A1	20020123	EP 2000-917469	20000425
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2003501347	T2	20030114	JP 2000-614276	20000425
PRAI	AU 1999-9997	A	19990427		
	WO 2000-JP2710	W	20000425		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000064927	ICM	C07K007-56
	ICS	A61K038-12; A61P031-00

OS MARPAT 133:335462

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Cyclic hexapeptides I [R1 = H, acyl; R2, R3 = H, cyano, (un)substituted alkyl, acyl, heterocyclyl, alkylidenyl; R4 = H, OH; R5 = H, OH, alkoxy, hydroxysulfonyloxy; R6 = OH, acyloxy] or their salts were prepared for use as antimicrobials, especially fungicides. Thus, cyclic peptide II [R1 =

STN search for 10665009

p-[5-[4'-(2-methoxyethoxy)[1,1'-biphenyl]-4-yl]thiazol-2-yl]benzoyl], prepared via N-acylation reaction, showed MIC <0.3 µg/mL for inhibition of *Candida albicans*.

ST cyclic peptide prepn antimicrobial; fungicide cyclic peptide

IT Peptides, preparation

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(cyclic; preparation of cyclic hexapeptides having antibiotic activity)

IT Antibiotics

Fungicides

(preparation of cyclic hexapeptides having antibiotic activity)

IT 303977-47-1P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BYP (Byproduct); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of cyclic hexapeptides having antibiotic activity)

IT 303977-16-4P 303978-65-6P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BYP (Byproduct); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of cyclic hexapeptides having antibiotic activity)

IT 303974-24-5P 303977-28-8P 303977-34-6P 303977-37-9P 303977-43-7P

303977-48-2P 303977-57-3P 303977-62-0P 303977-65-3P 303977-67-5P

303977-86-8P 303977-87-9P 303978-03-2P 303978-04-3P 303978-06-5P

303978-07-6P 303978-08-7P 303978-10-1P 303978-12-3P 303978-18-9P

303978-19-0P 303978-20-3P 303978-21-4P 303978-23-6P 303978-25-8P

303978-27-0P 303978-28-1P 303978-56-5P 303978-60-1P 303978-61-2P

303978-62-3P 303978-63-4P 303978-68-9P 303978-83-8P 303978-84-9P

303979-17-1P 303979-27-3P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of cyclic hexapeptides having antibiotic activity)

IT 303977-27-7P 303977-29-9P 303977-30-2P 303977-32-4P 303977-33-5P

303977-35-7P 303977-36-8P 303977-38-0P 303977-39-1P 303977-40-4P

303977-41-5P 303977-42-6P 303977-49-3P 303977-50-6P 303977-51-7P

303977-52-8P 303977-53-9P 303977-54-0P 303977-55-1P 303977-56-2P

303977-58-4P 303977-59-5P 303977-61-9P 303977-63-1P 303977-64-2P

303977-66-4P 303977-69-7P 303977-70-0P 303977-71-1P 303977-72-2P

303977-73-3P 303977-74-4P 303977-75-5P 303977-76-6P 303977-77-7P

303977-78-8P 303977-79-9P 303977-80-2P 303977-81-3P 303977-83-5P

303977-84-6P 303977-85-7P 303977-89-1P 303977-90-4P 303977-91-5P

303977-93-7P 303977-94-8P 303977-95-9P 303977-96-0P 303977-98-2P

303977-99-3P 303978-00-9P 303978-01-0P 303978-02-1P 303978-05-4P

303978-09-8P 303978-13-4P 303978-15-6P 303978-16-7P 303978-17-8P

303978-26-9P 303978-29-2P 303978-30-5P 303978-31-6P 303978-32-7P

303978-33-8P 303978-34-9P 303978-35-0P 303978-36-1P 303978-37-2P

303978-38-3P 303978-39-4P 303978-41-8P 303978-42-9P 303978-43-0P

303978-44-1P 303978-45-2P 303978-46-3P 303978-48-5P 303978-49-6P

303978-50-9P 303978-52-1P 303978-53-2P 303978-54-3P 303978-55-4P

303978-57-6P 303978-58-7P 303978-66-7P 303978-67-8P 303978-69-0P

303978-70-3P 303978-71-4P 303978-72-5P 303978-74-7P 303978-76-9P

303978-77-0P 303978-78-1P 303978-79-2P 303978-80-5P 303978-81-6P

303978-82-7P 303978-85-0P 303978-86-1P 303978-87-2P 303978-90-7P

303978-91-8P 303978-92-9P 303978-93-0P 303978-94-1P 303978-95-2P

303978-96-3P 303978-97-4P 303978-98-5P 303978-99-6P 303979-00-2P

303979-01-3P 303979-02-4P 303979-04-6P 303979-05-7P 303979-06-8P

STN search for 10665009

303979-07-9P	303979-08-0P	303979-09-1P	303979-10-4P	303979-11-5P
303979-12-6P	303979-14-8P	303979-15-9P	303979-18-2P	303979-19-3P
303979-20-6P	303979-21-7P	303979-22-8P	303979-23-9P	303979-24-0P
303979-25-1P	303979-26-2P	303979-29-5P	303979-30-8P	303979-31-9P
303979-32-0P	303979-33-1P	303979-34-2P	303979-35-3P	303979-37-5P
303979-38-6P	303979-39-7P	303979-40-0P	303979-41-1P	303979-43-3P
304655-96-7P	304656-02-8P	304656-06-2P	304656-11-9P	304656-15-3P
304656-19-7P	304656-24-4P			

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of cyclic hexapeptides having antibiotic activity)

IT 79-19-6, Thiosemicarbazide 99-76-3, Methyl 4-hydroxybenzoate 105-36-2, Ethyl bromoacetate 106-41-2, 4-Bromophenol 107-08-4, 1-Iodopropane 108-30-5, reactions 110-52-1, 1,4-Dibromobutane 110-85-0, Piperazine, reactions 111-24-0, 1,5-Dibromopentane 115-19-5, 2-Methyl-3-butyn-2-ol 120-61-6, Dimethyl terephthalate 350-46-9, 1-Fluoro-4-nitrobenzene 451-46-7, Ethyl 4-fluorobenzoate 456-22-4, 4-Fluorobenzoic acid 460-00-4, 1-Bromo-4-fluorobenzene 624-76-0, 2 Iodoethanol 627-18-9, 3-Bromo-1-propanol 629-03-8 931-51-1, Cyclohexylmagnesium chloride 1072-72-6, Tetrahydrothiopyran-4-one 1075-89-4, 3,3-Tetramethyleneglutarimide 1194-02-1, 4-Fluorobenzonitrile 1445-73-4, 1-Methyl 4 piperidone 1521-51-3, 3-Bromocyclohexene 1708-40-3 2374-05-2, 4-Bromo-2,6-dimethylphenol 2508-29-4, 5-Amino-1-pentanol 4549-31-9, 1,7-Dibromoheptane 4637-24-5, Dmf dimethyl acetal 4746-97-8, 1,4-Dioxaspiro[4.5]decan-8-one 5299-60-5 5382-16-1, 4-Hydroxypiperidine 5467-56-1 6485-55-8, cis-2,6-Dimethylmorpholine 7377-26-6, 4-Methoxycarbonylbenzoyl chloride 10191-60-3 10387-40-3, Potassium thioacetate 13325-10-5, 4-Amino-1-butanol 16694-46-5, Ethyl formimidate hydrochloride 20601-38-1, 1,1'-Bicyclohexyl-4,4'-diol 20914-89-0 24277-39-2 25016-11-9, 1-Methyl-4-pyrazolecarboxaldehyde 29558-77-8 39512-49-7 40501-41-5, Methyl 4 4 hydroxyphenyl benzoate 40807-61-2, 4-Hydroxy-4-phenylpiperidine 41979-39-9, 4-Piperidone hydrochloride 43064-12-6, 1,2,3,6-Tetrahydro-4-phenylpyridine hydrochloride 51885-86-0, Methyl 4-methylsulfinylbenzoate 57260-71-6 58632-95-4 58885-58-8 65695-05-8 67914-60-7, 1-Acetyl-4-(4-hydroxyphenyl)piperazine 81590-55-8 91526-18-0 95798-23-5 101023-70-5 101623-70-5 103322-56-1 141699-66-3 154312-16-0 159974-55-7 167090-45-1 208537-93-3 208538-13-0 235108-60-8 235109-12-3 235110-61-9 235112-57-9 235112-60-4 235112-67-1 235112-68-2 235112-73-9 235112-79-5 235112-86-4 303977-17-5 303977-18-6 303977-23-3 303977-25-5 303979-44-4 303979-45-5 303979-46-6 303979-48-8 303979-51-3 303979-53-5 303979-55-7 303979-56-8 303979-57-9 303979-58-0 303979-59-1 303979-61-5 303979-62-6 303979-63-7 303979-66-0 303979-67-1 303979-68-2 303979-69-3 303979-71-7 303979-73-9 303979-74-0 303979-76-2 303979-77-3 303979-78-4 303979-79-5 303979-80-8 303979-81-9 303979-82-0 303979-84-2 303979-86-4 303979-88-6 303979-89-7 303979-90-0 303979-91-1 303979-92-2 303979-93-3 303979-94-4 303979-95-5 303979-96-6 303979-97-7 303979-98-8 303979-99-9 303980-00-9 303980-02-1 303980-04-3 303980-06-5 303980-07-6 303980-08-7 303980-09-8 303980-11-2 303980-13-4 303980-15-6 303980-21-4 304656-29-9 304656-37-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of cyclic hexapeptides having antibiotic activity)

IT 105-70-4P 176-64-7P, 8-Azaspiro[4.5]decane 1931-63-1P 6946-10-7P 17396-35-9P 26822-37-7P 27983-42-2P 34334-24-2P 52941-82-9P 56176-76-2P 58885-60-2P 67259-62-5P 75178-90-4P 75612-73-6P 75612-74-7P 75937-12-1P 80518-57-6P 90869-31-1P 109384-19-2P 149377-19-5P 158771-48-3P 163210-43-3P 163210-59-1P 179162-63-1P

STN search for 10665009

207305-60-0P	217958-45-7P	235108-50-6P	235109-63-4P	235109-64-5P
235109-80-5P	262614-51-7P	303974-05-2P	303974-06-3P	303974-07-4P
303974-08-5P	303974-09-6P	303974-10-9P	303974-11-0P	303974-12-1P
303974-13-2P	303974-14-3P	303974-15-4P	303974-16-5P	303974-18-7P
303974-19-8P	303974-20-1P	303974-21-2P	303974-25-6P	303974-26-7P
303974-27-8P	303974-28-9P	303974-29-0P	303974-30-3P	303974-31-4P
303974-32-5P	303974-33-6P	303974-34-7P	303974-35-8P	303974-36-9P
303974-37-0P	303974-38-1P	303974-39-2P	303974-40-5P	303974-41-6P
303974-42-7P	303974-43-8P	303974-44-9P	303974-45-0P	303974-46-1P
303974-47-2P	303974-48-3P	303974-49-4P	303974-50-7P	303974-51-8P
303974-53-0P	303974-54-1P	303974-55-2P	303974-56-3P	303974-57-4P
303974-58-5P	303974-59-6P	303974-60-9P	303974-61-0P	303974-62-1P
303974-63-2P	303974-64-3P	303974-65-4P	303974-66-5P	303974-67-6P
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303974-73-4P	303974-74-5P	303974-75-6P	303974-76-7P	303974-77-8P
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303974-83-6P	303974-84-7P	303974-85-8P	303974-87-0P	303974-88-1P
303974-89-2P	303974-90-5P	303974-91-6P	303974-92-7P	303974-93-8P
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303975-12-4P	303975-13-5P	303975-15-7P	303975-16-8P	303975-19-1P
303975-20-4P	303975-21-5P	303975-22-6P	303975-23-7P	303975-24-8P
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303975-31-7P	303975-32-8P	303975-33-9P	303975-34-0P	303975-35-1P
303975-36-2P	303975-37-3P	303975-38-4P	303975-39-5P	303975-40-8P
303975-41-9P	303975-42-0P	303975-43-1P	303975-44-2P	303975-45-3P
303975-46-4P	303975-47-5P	303975-48-6P	303975-49-7P	303975-50-0P
303975-51-1P	303975-52-2P	303975-53-3P	303975-54-4P	303975-55-5P
303975-56-6P	303975-57-7P	303975-58-8P	303975-59-9P	303975-60-2P
303975-61-3P	303975-62-4P	303975-63-5P	303975-64-6P	303975-65-7P
303975-66-8P	303975-67-9P	303975-68-0P	303975-69-1P	303975-70-4P
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303975-81-7P	303975-82-8P	303975-83-9P	303975-84-0P	303975-85-1P
303975-86-2P	303975-87-3P	303975-88-4P	303975-89-5P	303975-91-9P
303975-92-0P	303975-93-1P	303975-94-2P	303975-95-3P	303975-96-4P
303975-97-5P	303975-98-6P	303975-99-7P	303976-00-3P	303976-01-4P
303976-02-5P	303976-03-6P	303976-04-7P	303976-05-8P	303976-06-9P
303976-07-0P	303976-08-1P	303976-09-2P	303976-10-5P	303976-11-6P
303976-12-7P	303976-13-8P	303976-14-9P	303976-15-0P	303976-16-1P
303976-17-2P	303976-18-3P	303976-19-4P	303976-20-7P	303976-21-8P
303976-22-9P	303976-23-0P	303976-24-1P		

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of cyclic hexapeptides having antibiotic activity)

IT 303976-25-2P	303976-26-3P	303976-27-4P	303976-28-5P	303976-29-6P
303976-30-9P	303976-31-0P	303976-32-1P	303976-33-2P	303976-34-3P
303976-35-4P	303976-36-5P	303976-38-7P	303976-39-8P	303976-40-1P
303976-41-2P	303976-42-3P	303976-44-5P	303976-46-7P	303976-49-0P
303976-50-3P	303976-52-5P	303976-54-7P	303976-55-8P	303976-56-9P
303976-57-0P	303976-58-1P	303976-60-5P	303976-61-6P	303976-64-9P
303976-66-1P	303976-68-3P	303976-70-7P	303976-71-8P	303976-72-9P
303976-73-0P	303976-74-1P	303976-75-2P	303976-76-3P	303976-77-4P
303976-79-6P	303976-81-0P	303976-82-1P	303976-83-2P	303976-84-3P
303976-85-4P	303976-86-5P	303976-87-6P	303976-88-7P	303976-89-8P
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303977-02-8P	303977-03-9P	303977-04-0P	303977-05-1P	303977-06-2P
303977-07-3P	303977-08-4P	303977-09-5P	303977-10-8P	303977-11-9P



STN search for 10665009

303977-12-0P 303977-19-7P 303977-22-2P, 8-Azaspiro[4.5]decane-7,9-diol  
303994-16-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(preparation of cyclic hexapeptides having antibiotic activity)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Fujisawa Pharmaceutical Co; EP 0644199 A 1995 CAPLUS
- (2) Fujisawa Pharmaceutical Co; WO 9611210 A 1996 CAPLUS
- (3) Merck & Co Inc; EP 0535959 A 1993 CAPLUS
- (4) Zambias, R; BIOORGANIC & MEDICINAL CHEMISTRY LETTERS 1995, V5(20), P2357  
CAPLUS

L8 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:133315 CAPLUS

DN 132:185260

ED Entered STN: 25 Feb 2000

TI Preparation of oxime carboxylic acid derivatives for delivery of  
organoleptic and antimicrobial compounds

IN Anderson, Denise; Frater, Georg

PA Givaudan Roure (International) S.A., Switz.

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C07C251-62

ICS C07C271-62; A61K007-40; A61K007-48

CC 62-4 (Essential Oils and Cosmetics)

Section cross-reference(s): 17, 23, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 980863	A1	20000223	EP 1999-115880	19990812
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	ZA 9905213	A	20000403	ZA 1999-5213	19990816
	BR 9903629	A	20000926	BR 1999-3629	19990816
	AU 9944533	A1	20000309	AU 1999-44533	19990817
	JP 2000109457	A2	20000418	JP 1999-267612	19990817
	US 6521797	B1	20030218	US 1999-376776	19990817
PRAI	EP 1998-115403	A	19980817		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 980863	ICM	C07C251-62
	ICS	C07C271-62; A61K007-40; A61K007-48
US 6521797	ECLA	A61K007/48C6; C07C251/62; C07C251/66; C07C251/68

OS MARPAT 132:185260

AB Oxime carboxylic acid derivs. R2R3C:NO2CXnR1 (where n = 1 or 0; X = O or  
N, R2 and R3 = residues of R2R3C:NOH and R1 = substituted or  
unsubstituted, branched or unbranched C1-30 alkyl, alkenyl, alkynyl,  
cycloalkyl, cycloalkenyl, alkoxyalkyl, aryloxyaryl, alkoxyaryl,  
aryloxyalkyl or aromatic radicals, and XnR1 = ONR3R3) are useful as  
precursors for the delivery of organoleptic compds., especially for flavors,  
fragrances and masking agents, and/or antimicrobial compds. Thus,  
octanoic acid 1-bicyclo[2.2.1]hept-5-en-2-ylethanone oxime ester (I) by  
the treatment of a suspension of sodium caprylate in 200 mL acetone and Et  
chloroformate with 1-bicyclo[2.2.1]hept-5-en-2-ylethanone oxime. Thus, a  
deodorant cologne contained I (delayed-release fragrance) 0.5, fragrance  
0.5, triclosan 1.0, and alc. to 100%.

STN search for 10665009

ST oxime carboxylate organoleptic antimicrobial prepn  
IT Antiperspirants  
(aerosols; preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)  
IT Detergents  
(laundry; preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)  
IT Air fresheners  
Antimicrobial agents  
Antiperspirants  
Colognes  
Fabric softeners  
Food  
Odor and Odorous substances  
Perfumes  
Tobacco products  
(preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)  
IT Alcohols, biological studies  
Aldehydes, biological studies  
Amines, biological studies  
Carbohydrates, biological studies  
Ketones, biological studies  
Lactones  
Nitriles, biological studies  
Phenols, biological studies  
RL: BUU (Biological use, unclassified); FMU (Formation, unclassified); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses)  
(preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)  
IT Oximes  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)  
IT Antiperspirants  
(roll-on; preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)  
IT Deodorants (personal)  
(sticks; preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)  
IT 56-81-5, 1,2,3-Propanetriol, biological studies 57-55-6,  
1,2-Propanediol, biological studies 60-12-8, 2-Phenylethanol 71-41-0,  
Amyl alcohol, biological studies 78-70-6, 3,7-Dimethyl-octa-1,6-dien-3-ol 80-54-6 85-91-6 89-83-8, Thymol 91-61-2 93-51-6 93-53-8,  
2-Phenylpropanal 95-41-0 97-53-0, Eugenol 97-54-1, Isoeugenol 98-52-2 98-85-1, 1-Phenylethanol 99-49-0, Carvone 100-51-6, Benzyl alcohol, biological studies 102-71-6, biological studies 103-08-2,  
5-Ethyl-2-nonanol 103-95-7 104-09-6, 4-Methylphenylacetaldehyde 104-46-1, Anethol 104-50-7 104-54-1, Cinnamic alcohol 104-67-6  
105-08-8, 1,4-Cyclohexanedimethanol 105-13-5, Anisic alcohol 106-21-8  
106-22-9, Citronellol 106-23-0, 3,7-Dimethyloct-6-enal 106-24-1,  
Geraniol 106-25-2, cis-3,7-Dimethyl-2-6-octadien-1-ol 106-44-5,  
biological studies 106-72-9, 2,6-Dimethylhept-5-enal 107-75-5,  
3,7-Dimethyl-7-hydroxyoctanal 110-41-8, 2-Methylundecanal 110-93-0,  
Methyl heptenone 111-27-3, Hexyl alcohol, biological studies 111-46-6,  
biological studies 111-70-6, Heptyl alcohol 111-71-7, Heptanal 111-75-1 111-87-5, Octyl alcohol, biological studies 112-27-6,

Triethyleneglycol 112-30-1, Decyl alcohol 112-31-2, Decanal 112-42-5, Undecyl alcohol 112-43-6, 10-Undecen-1-ol 112-44-7, Undecanal 112-45-8, Undec-10-enal 112-53-8, 1-Dodecanol 112-54-9, Dodecanal 112-72-1, 1-Tetradecanol 116-02-9 120-72-9, 1H-Indole, biological studies 121-32-4, Ethyl vanillin 121-33-5, Vanillin 122-97-4, 3-Phenylpropanol 122-99-6, 2-Phenoxyethanol 124-13-0, Octanal 124-19-6, Nonanal 128-50-7 133-18-6 134-20-3 137-03-1, 2-Heptylcyclopentanone 141-13-9, 2,6,10-Trimethylundec-9-enal 143-08-8, Nonyl alcohol 143-14-6, Undec-9-enal 499-75-2 507-70-0, Borneol 515-00-4 536-60-7 541-91-3, 3-Methylcyclopentadecanone 589-35-5, 3-Methyl-1-pentanol 610-85-5, Glucofuranose 626-93-7, 2-Hexanol 705-86-2 706-14-9 710-04-3 713-95-1 823-22-3 825-51-4, Decahydro-2-naphthol 928-91-6, cis-4-Hexenol 928-96-1, cis-3-Hexenol 1073-11-6 1123-85-9, 2-Phenylpropanol 1205-17-0 1423-46-7 1490-04-6, Menthol 1504-55-8, 2-Methyl-3-phenyl-2-propenol 1632-73-1, Fenchyl alcohol 2041-15-8, 1,3,5-Cyclohexanetriol 2280-44-6, Glucopyranose 2305-05-7 2344-70-9, 4-Phenyl-2-butanol 2550-26-7, Benzylacetone 3391-86-4, Oct-1-en-3-ol 3452-97-9, 3,5,5-Trimethylhexanol 3572-64-3 3720-16-9 4361-23-3, Tetrahydroionol 4395-92-0 4430-31-3 4439-20-7, N,N'-Bis(2-hydroxyethyl)ethylenediamine 4534-70-7 4602-84-0, Farnesol 4621-04-9 5435-64-3, 3,5,5-Trimethylhexanal 5442-00-2 5471-51-2 5502-75-0 5931-17-9 5988-91-0, 3,7-Dimethyloctanal 6347-01-9, D-Fructopyranose 7011-83-8 7149-26-0 7492-67-3 7493-63-2 7779-06-8 7786-44-9, Nona-2,6-dien-1-ol 7786-67-6, p-Menth-8-en-3-ol 9004-62-0, Hydroxyethylcellulose 9004-64-2, Hydroxypropylcellulose 10247-46-8, D-Fructofuranose 10458-14-7 10486-19-8, Tridecanal 10522-26-6 11072-28-9, Dimethyloctenone 13019-22-2, 9-Decen-1-ol 13254-34-7 13491-79-7 14481-52-8 14765-30-1 16587-71-6, 4-tert-Pentylcyclohexanone 18127-01-0 18479-58-8 19009-56-4, 2-Methyldecanal 19819-98-8 20601-38-1, [1,1'-Bicyclohexyl]-4,4'-diol 25312-34-9,  $\alpha$ -Ionol 25634-93-9, 2-Methyl-5-phenylpentanol 26330-64-3, 6-Ethyl-3-methyl-5-octen-1-ol 28231-03-0, Cedrenol 30168-23-1 30390-50-2, Dec-4-enal 31906-04-4 32480-08-3 33673-62-0 33704-61-9 34291-99-1 35854-86-5, cis-6-Nonen-1-ol 37677-14-8 39770-05-3, Dec-9-enal 41890-92-0 43000-45-9, 3-Methylbut-en-1-ol 52908-82-4 54464-57-2 55066-48-3, 3-Methyl-5-phenylpentanol 63500-71-0 63767-86-2 65113-99-7 65405-76-7 65437-70-9 65505-24-0 66068-84-6 67634-11-1 67801-20-1 68039-49-6 68391-29-7, 2,3,5,5-Tetramethylhexanal 68527-77-5 68991-97-9 70214-69-6, 2,5,7-Trimethyloctan-3-ol 70214-77-6, 6,8-Dimethyl-2-nonanol 70788-30-6 70851-61-5 72845-35-3, 2,6-Dimethyloct-5-enal 73398-85-3 79645-28-6 81782-77-6, 4-Methyl-3-decen-5-ol 82373-92-0 92585-24-5, 2-Methyl-4-phenylpentanol 94201-19-1 100428-67-9 125109-85-5 127818-66-0 218958-51-1 218958-54-4 218959-86-5 259210-30-5 259210-31-6 259210-32-7 259210-33-8 259210-34-9 259210-35-0

RL: BUU (Biological use, unclassified); FMU (Formation, unclassified); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses)

(preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)

IT 75147-23-8P 81783-01-9P 259210-24-7P 259210-25-8P 259210-26-9P 259210-27-0P 259210-28-1P 259210-29-2P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)

IT 532-32-1, Sodium benzoate 1984-06-1, Sodium caprylate 4144-54-1,

STN search for 10665009

4-Oxodecanoic acid 22457-23-4 65416-21-9 259210-22-5 259210-23-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of oxime carboxylic acid derivs. for delivery of organoleptic and antimicrobial compds.)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Asahi Chem Ind Co Ltd; JP 62286961 A 1987 CAPLUS
- (2) Bayer Ag; DE 1809385 A 1970 CAPLUS
- (3) Bayer Ag; DE 2227921 A 1973 CAPLUS
- (4) Bayer Ag; DE 3224787 A 1984 CAPLUS
- (5) Ciba-Geigy Ag; DE 2837204 A 1980 CAPLUS
- (6) Itoh, M; US 4014915 A 1977 CAPLUS
- (7) Merck & Co Inc; GB 1048346 A
- (8) Tokuyama Soda Kk; JP 07173140 A CAPLUS
- (9) Tokuyama Soda Kk; JP 08151356 A 1996 CAPLUS

L8 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:463236 CAPLUS

DN 131:116023

ED Entered STN: 29 Jul 1999

TI Preparation of alicyclic diketones

IN Araki, Noboru; Fujitani, Tsuratake

PA New Japan Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C07C049-417

ICS B01J023-86; C07C045-29; C07C049-517; C07B061-00

CC 24-5 (Alicyclic Compounds)

FAN.CNT 1

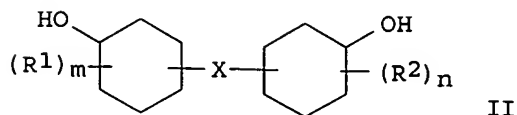
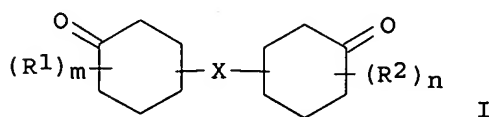
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11199539	A2	19990727	JP 1998-15026	19980108
PRAI	JP 1998-15026		19980108		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 11199539	ICM	C07C049-417
	ICS	B01J023-86; C07C045-29; C07C049-517; C07B061-00

OS CASREACT 131:116023; MARPAT 131:116023

GI



AB Title compds. I (X = C-C single bond, CH<sub>2</sub>, CMe<sub>2</sub>, O; R<sub>1</sub>, R<sub>2</sub> = H, C1-6 alkyl; n, m = 0-2) are prepared by liquid-phase dehydrogenation of alicyclic diols II (X, R<sub>2</sub>, R<sub>2</sub>, m, n = same as I) in the presence of Cu catalysts in

STN search for 10665009

solvents under reduced pressure. Hydrogenated bisphenol A was dehydrogenated in Alkane 20T (solvent) in the presence of Co-Cr oxide catalyst at 240° under 200-50 mmHg for 7 h to give 97.4% 2,2-bis(4-oxocyclohexyl)propane.

ST alicyclic ketone prepn; diol alicyclic dehydrogenation copper catalyst; ethylene glycol solvent dehydrogenation alicyclic diol; reduced pressure dehydrogenation hydrogenated bisphenol A; oxocyclohexylpropane prepn

IT Ketones, preparation  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(alicyclic)

IT Ethers, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(aliphatic, solvents; preparation of alicyclic diketones by dehydrogenation of alicyclic diols in solvents)

IT Cycloalkanols  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(aliphatic; preparation of alicyclic diketones by dehydrogenation of alicyclic diols in solvents)

IT Dehydrogenation catalysts  
(preparation of alicyclic diketones by dehydrogenation of alicyclic diols in solvents)

IT Aromatic hydrocarbons, uses  
Hydrocarbons, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvents; preparation of alicyclic diketones by dehydrogenation of alicyclic diols in solvents)

IT 1317-38-0, Copper oxide, uses 12018-10-9, Copper chromium oxide (CuCr2O4)  
RL: CAT (Catalyst use); USES (Uses)  
(Co-Cr oxide catalyst; preparation of alicyclic diketones by dehydrogenation of alicyclic diols in solvents)

IT 7418-16-8P, 2,2-Bis(4-oxocyclohexyl)propane 23391-99-3P, Bis(4-oxocyclohexyl) 51113-52-1P, Bis(4-oxocyclohexyl)methane  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(preparation of alicyclic diketones by dehydrogenation of alicyclic diols in solvents)

IT 80-04-6, Hydrogenated bisphenol A 20178-33-0, Bis(4-hydroxycyclohexyl)methane 20601-38-1, Bis(4-hydroxycyclohexyl)  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of alicyclic diketones by dehydrogenation of alicyclic diols in solvents)

IT 112-73-2, Diethylene glycol dibutyl ether 142661-28-7, Alkane 20T  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; preparation of alicyclic diketones by dehydrogenation of alicyclic diols in solvents)

L8 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1998:651005 CAPLUS  
DN 129:337641  
ED Entered STN: 14 Oct 1998  
TI Semiconductor device fabrication, photoresist therefor, and resin with high transparency toward ArF excimer laser included in the same  
IN Oshida, Atsushi; Kumata, Teruhiko; Yoshida, Ikuhiro; Fujino, Atsuko; Adachi, Hiroshi  
PA Mitsubishi Electric Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 17 pp.

STN search for 10665009

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F020-26

ICS C09D133-14; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10265526	A2	19981006	JP 1997-71961	19970325
PRAI	JP 1997-71961		19970325		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 10265526	ICM	C08F020-26
	ICS	C09D133-14; G03F007-039; H01L021-027

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The claimed resin includes an atomic group selected from I-VI [R1 = C1-10 hydrocarbyl; R2 = H, acid-decomposable group; R3, R4 = C1-10 hydrocarbyl, OR7, CO2R8, COR9, CN, SO2R10, F, Cl, Br, I, H; R5, R6 = C1-10 hydrocarbyl, OR7, CN, F, Cl, Br, I, H; R7-10 = C1-10 hydrocarbyl; n1 = 0, natural number; R11, R21 = C1-10 hydrocarbyl, OR51, CO2R61, COR71, CN, SO2R61, CF3, CC13, CBr3, F, Cl, Br, I, H, cyclohexyl, (alkyl)amino; R31, R41 = C1-10 hydrocarbyl, OR51, CO2R61, COR71, CN, SO2R61, F, Cl, Br, I, H, cyclohexyl; R51-81 = C1-10 hydrocarbyl, H; n2 = natural number; R12, R22 = C1-10 hydrocarbyl, OR32, CO2R42, COR52, Cn, SO2R62, F, Cl, Br, I, H, cyclohexyl, (alkyl)amino; R32-62 = C1-4 hydrocarbyl, H]. The photoresist involves the resin specified as above and containing an acid-decomposable atomic group and (ii) a photoacid generator. The process for semiconductor device fabrication involves photolithog. using the claimed photoresist and a short-wavelength laser. The photoresist showed good dry etching resistance and provided fine wiring pattern.

ST semiconductor fabrication photolithog photoresist etching resistance; hydroxyethyl methacrylate cyclohexylcarboxylate ester photoresist resin; phenylsulfonium flate photoacid generator photolithog semiconductor

IT Photoresists

Semiconductor device fabrication

(photoresist containing rigid-ring-containing resin with high transparency

to

laser wavelength and good etching resistance)

IT 66003-78-9, Triphenylsulfonium triflate

RL: CAT (Catalyst use); USES (Uses)

(photoacid generator; photoresist containing rigid-ring-containing resin

with

high transparency to laser wavelength and good etching resistance)

IT 214961-22-5P

RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(photoresist containing rigid-ring-containing resin with high transparency

to

laser wavelength and good etching resistance)

STN search for 10665009

IT 80-04-6 20601-38-1, [1,1'-Bicyclohexyl]-4,4'-diol 72145-62-1,  
tert-Butyl methacrylate-methacrylic acid-methyl methacrylate copolymer  
214961-24-7 214961-26-9 214961-27-0 214961-28-1 214961-30-5  
214961-32-7 214961-33-8 215179-73-0 215179-75-2 215179-77-4  
RL: TEM (Technical or engineered material use); USES (Uses)  
(photoresist containing rigid-ring-containing resin with high transparency  
to  
laser wavelength and good etching resistance)

L8 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1997:509125 CAPLUS  
DN 127:176419  
ED Entered STN: 11 Aug 1997  
TI Preparation and isolation of 4,4'-bicyclohexanedione monoketals as  
intermediates for liquid crystal compounds  
IN Kimura, Takahiro; Iwamoto, Osamu  
PA Wako Pure Chemical Industries, Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C07D317-72  
ICS C07D319-08; C07D321-10; C07D325-00  
CC 28-5 (Heterocyclic Compounds (More Than One Hetero Atom))  
Section cross-reference(s): 74, 75

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09194473	A2	19970729	JP 1996-21894	19960112
PRAI	JP 1996-21894		19960112		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 09194473	ICM	C07D317-72
	ICS	C07D319-08; C07D321-10; C07D325-00

AB 4,4'-Bicyclohexanedione monoketals are prepared by reaction of  
4,4'-bicyclohexanedione diketals with 4,4'-bicyclohexanedione (I) in the  
presence of acidic substances. The monoketals are isolated from solns.  
containing I, the monoketals, and the diketals by treating with NH3 or amine  
bisulfite salts. I (preparation given) was treated with ethylene glycol and  
KHSO4 in PhMe under reflux for 2 h and addnl. I was added and refluxed for  
another 4 h. The reaction mixture was treated with NH4HSO3 at 20-25°  
for 1 h to crystallize monoketal bisulfite salt, which was decomposed using  
NaOH in H2O-PhMe at 20-25° for 1 h to give 40% I monoethylene  
ketal.

ST bicyclohexanedione ketal prepn isolation; liq crystal intermediate  
bicyclohexanedione monoketal prepn; ketalization bicyclohexanedione  
diketal; ammonium bisulfite purifn bicyclohexanedione monoketal; amine  
bisulfite purifn bicyclohexanedione monoketal

IT Liquid crystals  
(preparation and isolation of bicyclohexanedione monoketals as intermediates  
for liquid crystal compds.)

IT Amines, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(salts, bisulfites; preparation and isolation of bicyclohexanedione  
monoketals as intermediates for liquid crystal compds.)

IT 10192-30-0, Ammonium bisulfite  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(in purification; preparation and isolation of bicyclohexanedione  
monoketals as

STN search for 10665009

intermediates for liquid crystal compds.)  
IT 56309-94-5P 194154-48-8P 194154-51-3P  
RL: IMF (Industrial manufacture); PUR (Purification or recovery); SPN  
(Synthetic preparation); PREP (Preparation)  
(preparation and isolation of bicyclohexanedione monoketals as intermediates  
for liquid crystal compds.)  
IT 20601-38-1, 4,4'-Bicyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and isolation of bicyclohexanedione monoketals as intermediates  
for liquid crystal compds.)  
IT 23391-99-3P, [1,1'-Bicyclohexyl]-4,4'-dione 194154-45-5P,  
8,8'-Bi-1,4-dioxaspiro[4.5]decane  
RL: RCT (Reactant); REM (Removal or disposal); SPN (Synthetic  
preparation); PREP (Preparation); PROC (Process); RACT (Reactant or  
reagent)  
(preparation and isolation of bicyclohexanedione monoketals as intermediates  
for liquid crystal compds.)

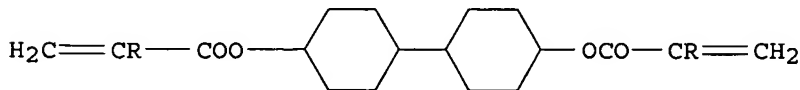
L8 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1997:439896 CAPLUS  
DN 127:51101  
ED Entered STN: 14 Jul 1997  
TI Preparation of bicyclohexyl-4,4'-diol unsaturated carboxylic acid diesters  
IN Myonaka, Atsushi; Hiramane, Tadashi; Masuda, Toru; Yazu, Tadao  
PA Honshu Chemical Industry Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C07C069-54  
ICS C08F020-20  
CC 35-2 (Chemistry of Synthetic High Polymers)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09143125	A2	19970603	JP 1995-305586	19951124
PRAI	JP 1995-305586		19951124		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 09143125	ICM	C07C069-54
	ICS	C08F020-20

OS MARPAT 127:51101  
GI



AB The title diesters I (R = H, C1-4 alkyl), useful as monomers for  
photocurable inks, paints, photoresists, dental materials, etc., are  
prepared Acrylic acid was added dropwise to a mixture toluene, p-MeC6H4SO3H,  
p-EtOC6H4OH, and bicyclohexyl-4,4'-diol (II), previously heated at  
110° for 1 h, under stirring at 110° and the reaction mixture  
was refluxed for 10 h to give 21.2% (based on II) I (R = H).  
ST bicyclohexyldiol unsatd carboxylate prepn monomer; acrylic acid



STN search for 10665009

bicyclohexyldiol diester prepn; methacrylic acid bicyclohexyldiol diester prepn

IT Monomers  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(preparation of bicyclohexyldiol unsatd. carboxylic acid diesters for photocurable resins)

IT 191160-34-6P 191160-36-8P  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(preparation of bicyclohexyldiol unsatd. carboxylic acid diesters for photocurable resins)

IT 79-10-7, 2-Propenoic acid, reactions 79-41-4, reactions  
20601-38-1, Bicyclohexyl-4,4'-diol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of bicyclohexyldiol unsatd. carboxylic acid diesters for photocurable resins)

L8 ANSWER 13 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1997:411973 CAPLUS  
DN 127:122057  
ED Entered STN: 03 Jul 1997  
TI Synthesis of degradable crosslinked polymers based on 1,5-dioxepan-2-one and crosslinker of bis- $\epsilon$ -caprolactone type  
AU Palmgren, Ronnie; Karlsson, Sigbritt; Albertsson, Ann-Christine  
CS Department Polymer Technology, Royal Institute Technology (KTH), Stockholm, S-100 44, Swed.  
SO Journal of Polymer Science, Part A: Polymer Chemistry (1997), 35(9), 1635-1649  
CODEN: JPACEC; ISSN: 0887-624X  
PB Wiley  
DT Journal  
LA English  
CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 37

AB Poly(lactones) may be crosslinked by ring-opening polymerization of the corresponding cyclic esters in the presence of tetrafunctional bis( $\epsilon$ -caprolactone). The homopolymer of 1,5-dioxepan-2-one (DXO) has poor mech. properties but also some very good properties, such as biocompatibility and degradability. Crosslinking of degradable polymer based on DXO was performed with crosslinkers having the same reactivity as the monomer. 2,2-Bis( $\epsilon$ -caprolacton-4-yl)propane (BCP) and bis( $\epsilon$ -caprolacton-4-yl) (BCY) with tetrafunctionalities were synthesized from the corresponding diols and then used as comonomers during the polymerization of DXO. The comonomers showed the same reactivity to the initiator, stannous 2-ethylhexanoate, as DXO and perfectly random crosslinked films were obtained. The crosslinked films showed a high degree of swelling at 2-3 mol% BCP or BCY. The BCP crosslinker was somewhat less soluble in DXO at lower temps., but all BCP was soluble at 180°C. These polymeric films were elastic with no crystallinity and the Tg values increased from -39°C for pure DXO to -35°C for BCP crosslinked films and -21°C for BCY crosslinked ones.

ST dioxepanone polyester crosslinking agent; caprolactonylpropane crosslinker dioxepanone polymer; biscaprolactonyl crosslinker dioxepanone polymer

IT Glass transition temperature  
(glass temperature of degradable crosslinked polyesters based on 1,5-dioxepan-2-one and crosslinker of bis- $\epsilon$ -caprolactone type)

IT Crosslinking agents  
(synthesis of degradable crosslinked polyesters based on 1,5-dioxepan-2-one and crosslinker of bis- $\epsilon$ -caprolactone type)

STN search for 10665009

IT Polyesters, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis of degradable crosslinked polyesters based on  
1,5-dioxepan-2-one and crosslinker of bis- $\epsilon$ -caprolactone type)

IT 93745-78-9P 179523-43-4P, [4,4'-Bioxepane]-7,7'-dione  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(crosslinker; synthesis of degradable crosslinked polyesters based on  
1,5-dioxepan-2-one and crosslinker of bis- $\epsilon$ -caprolactone type)

IT 7418-16-8P, 2,2-Bis(4-oxocyclohexyl)propane  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(intermediate for crosslinker; synthesis of degradable crosslinked  
polyesters based on 1,5-dioxepan-2-one and crosslinker of  
bis- $\epsilon$ -caprolactone type)

IT 35438-57-4P, 1,4-Dioxepan-5-one  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(monomer; synthesis of degradable crosslinked polyesters based on  
1,5-dioxepan-2-one and crosslinker of bis- $\epsilon$ -caprolactone type)

IT 80-04-6, 2,2-Bis(4-hydroxycyclohexyl)propane 20601-38-1,  
[1,1'-Bicyclohexyl]-4,4'-diol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material for crosslinker; synthesis of degradable crosslinked  
polyesters based on 1,5-dioxepan-2-one and crosslinker of  
bis- $\epsilon$ -caprolactone type)

IT 29943-42-8, Tetrahydro-4H-pyran-4-one  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material for monomer; synthesis of degradable crosslinked  
polyesters based on 1,5-dioxepan-2-one and crosslinker of  
bis- $\epsilon$ -caprolactone type)

IT 192801-76-6P 192801-77-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis of degradable crosslinked polyesters based on  
1,5-dioxepan-2-one and crosslinker of bis- $\epsilon$ -caprolactone type)

L8 ANSWER 14 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:294892 CAPLUS

DN 124:342723

ED Entered STN: 18 May 1996

TI Process for producing alicyclic diketone compounds

IN Kawai, Shuji; Araki, Noboru; Itoh, Hiroshi

PA New Japan Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C07C045-00

ICS C07C049-417; C07C049-517

CC 24-5 (Alicyclic Compounds)

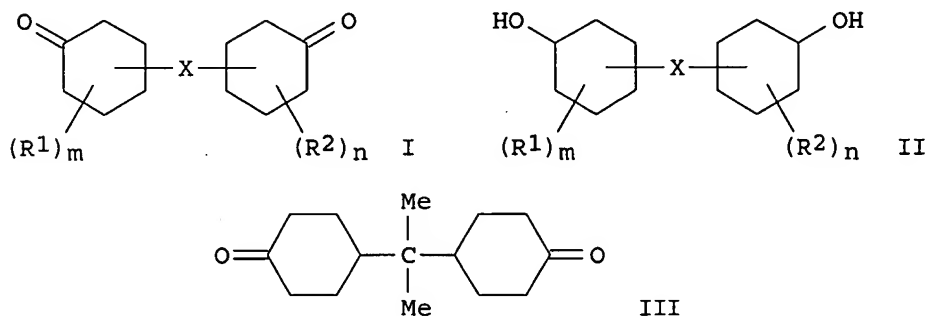
Section cross-reference(s): 45

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 697389	A1	19960221	EP 1995-112475	19950808
	R: DE, FR, GB, IT				
	JP 08053386	A2	19960227	JP 1994-187441	19940809
	JP 3579923	B2	20041020		
	US 5654489	A	19970805	US 1995-505456	19950721
PRAI	JP 1994-187441	A	19940809		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 697389	ICM	C07C045-00
	ICS	C07C049-417; C07C049-517
US 5654489	ECLA	C07C045/00D; C07C049/417; C07C049/517; C07C315/04
OS	CASREACT	124:342723; MARPAT 124:342723
GI		



- AB Alicyclic diketones I [X = bond, CH<sub>2</sub>, C(CH<sub>3</sub>)<sub>2</sub>, O, or SO<sub>2</sub>; R<sub>1</sub>, R<sub>2</sub> = C1-6 alkyl; m, n = 0-2] are prepared by liquid-phase dehydrogenation of alicyclic diols II in the presence of at least one Cu-type and/or Raney-type catalyst. For example, dehydrogenation of 2,2-bis(4-hydroxycyclohexyl)propane over a Raney Co catalyst at 230° and 1.8 kg/cm<sup>2</sup>G in diglyme in the presence of H<sub>2</sub> gave diketone III of 92.2% purity in 88.1% yield. A variety of other diketones were similarly prepared in approx. 75-90% yield using various Raney metal or mixed metal oxide catalysts.
- ST alicyclic diketone; dehydrogenation alicyclic diol copper Raney catalyst
- IT Metals, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (Raney, catalysts; preparation of alicyclic diketones by dehydrogenation of alicyclic diols)
- IT Oxides, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts; preparation of alicyclic diketones by dehydrogenation of alicyclic diols)
- IT Dehydrogenation  
 Dehydrogenation catalysts  
 (preparation of alicyclic diketones by dehydrogenation of alicyclic diols)
- IT Glycols, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (alicyclic, preparation of alicyclic diketones by dehydrogenation of alicyclic diols)
- IT Ketones, preparation  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (di-, alicyclic; preparation of alicyclic diketones by dehydrogenation of alicyclic diols)
- IT 1304-28-5, Barium oxide, uses 1305-78-8, Calcium oxide, uses 1308-38-9, Chromium oxide (Cr<sub>2</sub>O<sub>3</sub>), uses 1309-48-4, Magnesium oxide, uses 1313-99-1, Nickel oxide, uses 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconium oxide, uses 1314-35-8, Tungsten oxide, uses 1317-38-0, Copper oxide (CuO), uses 1344-28-1, Aluminum oxide, uses 1344-43-0, Manganese oxide (MnO), uses 1344-70-3, Copper oxide 7429-90-5,

STN search for 10665009

Aluminum, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-33-7, Tungsten, uses 7440-39-3, Barium, uses 7440-47-3, Chromium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses 7440-67-7, Zirconium, uses 7440-70-2, Calcium, uses 11098-99-0, Molybdenum oxide 11104-61-3, Cobalt oxide 11118-57-3, Chromium oxide 11129-60-5, Manganese oxide

RL: CAT (Catalyst use); USES (Uses)

(catalyst; preparation of alicyclic diketones by dehydrogenation of alicyclic diols)

IT 7418-16-8P, 2,2-Bis(4-oxocyclohexyl)propane 23391-99-3P, Bis(4-oxocyclohexyl) 51113-52-1P, Bis(4-oxocyclohexyl)methane 176499-27-7P, 2,2-Bis(2-methyl-4-oxocyclohexyl)propane 176499-28-8P, Bis(4-oxocyclohexyl) ether 176499-29-9P, Bis(4-oxocyclohexyl) sulfone  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP

(Preparation)

(preparation of alicyclic diketones by dehydrogenation of alicyclic diols)

IT 80-04-6, 2,2-Bis(4-hydroxycyclohexyl)propane 20178-33-0, Bis(4-hydroxycyclohexyl)methane 20601-38-1, Bis(4-hydroxycyclohexyl) 58699-87-9, Bis(4-hydroxycyclohexyl) sulfone 58738-69-5, Bis(4-hydroxycyclohexyl) ether 93479-52-8, 2,2-Bis(2-methyl-4-hydroxycyclohexyl)propane

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of alicyclic diketones by dehydrogenation of alicyclic diols)

L8 ANSWER 15 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:997040 CAPLUS

DN 124:145502

ED Entered STN: 22 Dec 1995

TI Preparation of carbonyl compounds

IN Poetsch, Eike; Lannert, Harald

PA Merck Patent GmbH, Germany

SO Ger. Offen., 11 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM C07C049-417

ICS B01J031-24; C07C049-657; C07C049-453

ICA B01J031-22

CC 24-5 (Alicyclic Compounds)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4415803	A1	19951109	DE 1994-4415803	19940505
	DE 4415803	C2	20000203		
PRAI	DE 1994-4415803		19940505		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 4415803	ICM	C07C049-417
	ICS	B01J031-24; C07C049-657; C07C049-453
	ICA	B01J031-22

OS CASREACT 124:145502; MARPAT 124:145502

AB Title compds. are prepared from primary or secondary alcs. in the presence of chlorinated aroms. and a complex transition metal catalyst. Thus, dicyclohexylene-4,4'-diol was refluxed with 1,2,4-trichlorobenzene, NaOH, PdCl<sub>2</sub>, and tricyclohexylphosphine to give 72.5% dicyclohexylene-4,4'-dione.

ST aldehyde; ketone; alc oxidn chloroarom catalyst

IT 120-82-1, 1,2,4-Trichlorobenzene

STN search for 10665009

RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of)

IT 23391-99-3P, [1,1'-Bicyclohexyl]-4,4'-dione  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP  
(Preparation)  
(preparation of carbonyl compds.)

IT 20601-38-1, [1,1'-Bicyclohexyl]-4,4'-diol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of carbonyl compds.)

L8 ANSWER 16 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1993:80628 CAPLUS  
DN 118:80628  
ED Entered STN: 02 Mar 1993  
TI Preparation of bicyclohexanediol  
IN Yamashita, Noboru; Nishiyama, Shizuo  
PA New Japan Chemical Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C07C035-21  
ICS B01J023-40; B01J023-74; C07C029-20  
ICA C07B061-00  
CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04279537	A2	19921005	JP 1991-65520	19910305
PRAI	JP 1991-65520		19910305		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 04279537	ICM	C07C035-21
	ICS	B01J023-40; B01J023-74; C07C029-20
	ICA	C07B061-00

OS CASREACT 118:80628; MARPAT 118:80628

AB The title compound (I) is prepared by hydrogenation of biphenol (II) using  
≥1 glycol ethers RO(R1O)nH (III; R = C1-5 alkyl; R1 = C2-4  
alkylene) as solvents. trans-4,4'-I is prepared by hydrogenation of 4,4'-II  
in III, cooling the reaction mixture, and collecting the precipitated crystal.  
Autoclaving 4,4'-II in propylene glycol mono-Me ether in the presence of  
Ni catalyst under 30-50 kg/cm<sup>2</sup> H at 170° gave 98.7% 4,4'-I of 98.3%  
purity.

ST bicyclohexanediol prepn; biphenol hydrogenation solvent glycol ether

IT Hydrogenation  
(of bisphenols, solvents in, glycol monoalkyl ethers as)

IT Ethers, uses  
RL: USES (Uses)  
(glycol, monoalkyl, solvents, for hydrogenation of bisphenols)

IT 80-05-7, reactions 92-88-6, 4,4'-Bisphenol 1806-29-7,  
[1,1'-Biphenyl]-2,2'-diol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation of, solvents in, glycol monoalkyl ethers as)

IT 1333-74-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation, of bisphenols, solvents in, glycol monoalkyl ethers as)

IT 123384-61-2P, [1,1'-Bicyclohexyl]diol  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, by hydrogenation of biphenol, solvents in, glycol monoalkyl

STN search for 10665009

ethers as)  
IT 17385-36-3P, [1,1'-Bicyclohexyl]-2,2'-diol 20601-38-1P,  
4,4'-Bicyclohexanediol 46310-14-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, by hydrogenation of bisphenol, solvents in, glycol  
monoalkyl ethers as)  
IT 111-76-2, Ethylene glycol monobutyl ether 111-77-3, Diethylene glycol  
monomethyl ether 1320-67-8, Propylene glycol monomethyl ether  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(solvent, in hydrogenation of bisphenols)

L8 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:470564 CAPLUS

DN 117:70564

ED Entered STN: 23 Aug 1992

TI Preparation of fluorine-containing propoxybicyclohexylene-based  
polycarbonates with excellent thermoformability and transparency

IN Sugimori, Shigeru; Kondo, Tomoyuki

PA Chisso K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G064-16

CC 35-5 (Chemistry of Synthetic High Polymers)

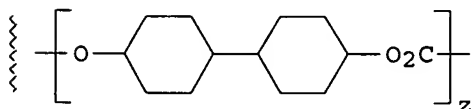
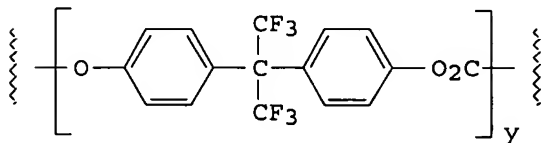
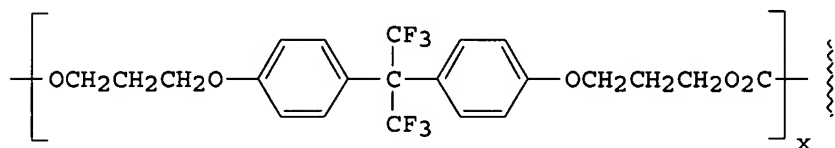
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04057827	A2	19920225	JP 1990-171072	19900628
PRAI	JP 1990-171072		19900628		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 04057827	ICM	C08G064-16

GI



I

AB Title polycarbonates have bisphenol type repeating units I ( $x + y + z = 1$ ;  
 $0.1 \leq x \leq 0.9$ ;  $0.1 \leq y \leq 0.9$ ;  $0.1 \leq z \leq 0.9$ ; cyclohexylene is trans). Thus, a solution of 0.33 g

STN search for 10665009

trichloromethyl chloroformate in 2 mL 1,2-dichloroethane (EDC) was added dropwise into a solution of 2,2-bis[4-( $\omega$ -hydroxypropoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane 0.95, 2,2-bis(4-hydroxyphenyl)-1,1,1,3,3,3-hexafluoropropane 0.20, and trans,trans-4,4'-bicyclohexanediol 0.06 g and 0.6 mL pyridine in 5 mL EDC at room temperature over 20 min with stirring and heated at 90° for 90 min to obtain a polymer with reduced viscosity 0.41 (25°, 0.5 g/dL-CHCl<sub>3</sub>), m.p. 128-169°, decomposition temperature 321°, and glass transition temperature 77°.

ST thermoformability fluoro polycarbonate prepn; transparency fluoro polycarbonate; bisphenol ether chloromethyl chloroformate copolymer; bicyclohexanediol fluoro polycarbonate prepn  
IT Transparent materials  
    (fluorine containing propoxybicyclohexylene-based polycarbonates as, preparation of, with good thermoformability)  
IT Polycarbonates, preparation  
    RL: PREP (Preparation)  
        (fluorine-containing, preparation of, with good thermoformability and transparency)  
IT Fluoropolymers  
    RL: PREP (Preparation)  
        (polycarbonate-, preparation of, with good thermoformability and transparency)  
IT 88216-48-2  
    RL: RCT (Reactant); RACT (Reactant or reagent)  
        (hydrolysis of, for preparation of polycarbonates)  
IT 46310-14-9P, trans,trans-4,4'-Bicyclohexanediol 142352-93-0P  
    RL: PREP (Preparation)  
        (preparation of, for transparent polycarbonates)  
IT 142518-50-1P  
    RL: PREP (Preparation)  
        (preparation of, with good thermoformability and transparency)  
IT 20601-38-1, 4,4'-Bicyclohexanediol  
    RL: RCT (Reactant); RACT (Reactant or reagent)  
        (reaction of, with benzoyl chloride, for preparation of polycarbonates)  
IT 98-88-4, Benzoyl chloride  
    RL: RCT (Reactant); RACT (Reactant or reagent)  
        (reaction of, with bicyclohexanediol, for preparation of polycarbonates)  
IT 627-18-9  
    RL: RCT (Reactant); RACT (Reactant or reagent)  
        (reaction of, with fluoro bisphenols, for preparation of polycarbonates)  
IT 1478-61-1, 2,2-Bis(4-hydroxyphenyl)-1,1,1,3,3,3-hexafluoropropane  
    RL: RCT (Reactant); RACT (Reactant or reagent)  
        (reaction of, with halo alcs., for preparation of polycarbonates)

L8 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1992:449464 CAPLUS  
DN 117:49464  
ED Entered STN: 08 Aug 1992  
TI Fluorine-containing bicyclohexylene polycarbonate for optical materials  
IN Sugimori, Shigeru; Kondo, Tomoyuki  
PA Chisso Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08G064-10  
CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 37  
FAN.CNT 1

STN search for 10665009

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04025527	A2	19920129	JP 1990-130566	19900521
PRAI	JP 1990-130566		19900521		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 04025527	ICM	C08G064-10
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AB The title polymers with good transparency and melt processability are prepared from trans,trans-4,4'-bicyclohexanediol (I), 1,1,1,3,3,3-hexafluoro-2,2-bis[4-(2-hydroxyethoxy)phenyl]propane (II) 2.7, and HCO<sub>2</sub>CCl<sub>3</sub>. Polymerizing I 0.3, II 2.7, and HCO<sub>2</sub>CCl<sub>3</sub> 1.7 mmol at 90° in 2 mL pyridine and 10 mL ClCH<sub>2</sub>CH<sub>2</sub>Cl gave 0.92 g polycarbonate with reduced viscosity 0.16 dL/g, m.p. 113-133°, decomposition temperature 323°, and glass temperature 89°.

ST polycarbonate fluoro bisphenol bicyclohexanediol; transparency  
polycarbonate fluoro; optical material polycarbonate; heat resistance  
polycarbonate fluoro

IT Heat-resistant materials  
(polycarbonates, fluoro-containing, bicyclohexylene, preparation of transparent)

IT Polycarbonates, preparation  
RL: PREP (Preparation)  
(fluorine-containing, bicyclohexanediol-based, preparation of transparent, heat-resistant, for optical materials)

IT Fluoropolymers  
RL: PREP (Preparation)  
(polycarbonate-, bicyclohexanediol-based, preparation of transparent, heat-resistant, for optical materials)

IT 20601-38-1, 4,4'-Bicyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification of, with benzoyl chloride)

IT 98-88-4, Benzoyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification of, with bicyclohexanediol)

IT 540-51-2, 2-Bromoethanol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(etherification of, with bis(hydroxyphenyl)hexafluoropropane)

IT 1478-61-1, 2,2-Bis(4-hydroxyphenyl)-1,1,1,3,3,3-hexafluoropropane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(etherification of, with bromoethanol)

IT 88216-48-2P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)

IT 142435-11-8P  
RL: PREP (Preparation)  
(preparation of transparent, heat-resistant, for optical materials)

L8 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:195116 CAPLUS

DN 116:195116

ED Entered STN: 16 May 1992

TI Liquid-crystalline fluorinated cyclohexylene unit-containing polycarbonates

IN Sugimori, Shigeru; Kondo, Tomoyuki

PA Chisso Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese



STN search for 10665009

IC ICM C08G064-10  
CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 75

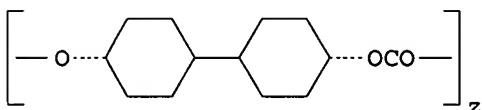
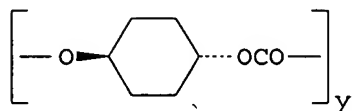
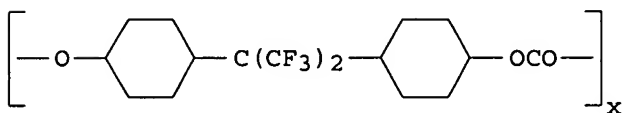
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03275717	A2	19911206	JP 1990-76275	19900326
PRAI	JP 1990-76275		19900326		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 03275717	ICM	C08G064-10

GI



I .

AB The title polymers with low birefringence and excellent transparency are prepared Thus, heating trans,trans-4,4'-bicyclohexanediol 0.6, trans-1,4-cyclohexanediol 0.3, 2,2-bis(4-hydroxyphenyl)hexafluoropropane 2.1, and ClCO<sub>2</sub>CCl<sub>3</sub> 1.7 mmol in 1,2-dichloroethane in the presence of pyridine at reflux gave 89.4% liquid-crystalline polycarbonate I with glass transition temperature 183°, and decomposition temperature 288°.

ST liq crystal polycarbonate cyclohexanediol fluoro; transparent polycarbonate liq crystal; bicyclohexanediol polycarbonate liq crystal; fluorobisphenol polycarbonate liq crystal

IT Transparent materials

(polycarbonates, cyclohexylene unit- and fluorine-containing, manufacture of)

IT Liquid crystals, polymeric

(polycarbonates, cyclohexylene unit- and fluorine-containing, manufacture of, transparent)

IT Polycarbonates, preparation

RL: PREP (Preparation)

(fluorine-containing, cyclohexanediol-based, preparation of, liquid-crystalline, transparent)

IT Fluoropolymers

RL: PREP (Preparation)

(polycarbonate-, cyclohexanediol-based, preparation of, liquid-crystalline, transparent)

IT 20601-38-1, 4,4'-Bicyclohexanediol

STN search for 10665009

RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzoylation of)  
IT 6289-83-4P, trans-1,4-Cyclohexanediol diacetate 88216-48-2P,  
trans,trans-4,4'-Bicyclohexanediol dibenzoate  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)  
IT 139500-30-4P  
RL: PREP (Preparation)  
(preparation of, liquid-crystalline, transparent)

L8 ANSWER 20 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1992:195115 CAPLUS  
DN 116:195115  
ED Entered STN: 16 May 1992  
TI Liquid-crystalline cyclohexylene unit-containing polycarbonates  
IN Sugimori, Shigeru; Kondo, Tomoyuki  
PA Chisso Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08G064-00  
CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 75

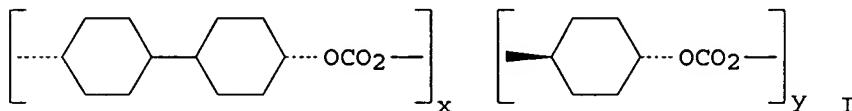
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03273025	A2	19911204	JP 1990-72689	19900322
PRAI JP 1990-72689		19900322		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 03273025	ICM	C08G064-00

GI



AB The title polymers with low birefringence and excellent transparency are prepared. Thus, polymerization of trans,trans-4,4'-bicyclohexanediol with ClCO<sub>2</sub>CCl<sub>3</sub> in 1,2-dichloroethane in the presence of pyridine under reflux gave 76.1% liquid-crystalline polymer I with glass transition temperature 146°.

ST liq crystal polycarbonate cyclohexanediol; transparent polycarbonate liq crystal; bicyclohexanediol polycarbonate liq crystal

IT Polycarbonates, preparation  
RL: PREP (Preparation)  
(cyclohexanediol-based, preparation of, liquid-crystalline, transparent)

IT Liquid crystals, polymeric  
Transparent materials  
(polycarbonates, cyclohexylene unit-containing, liquid-crystalline)

IT 20601-38-1, 4,4'-Bicyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzoylation of)

IT 6289-83-4P, trans-1,4-Cyclohexanediol diacetate 88216-48-2P,

STN search for 10665009

trans,trans-4,4'-Bicyclohexanediol dibenzoate  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)

IT 6995-79-5P, trans-1,4-Cyclohexanediol 46310-14-9P, trans,trans-4,4'-  
Bicyclohexanediol  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and polymerization of)

IT 139500-28-0P 139500-29-1P 139500-88-2P  
RL: PREP (Preparation)  
(preparation of, liquid-crystalline, transparent)

L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1992:193780 CAPLUS  
DN 116:193780  
ED Entered STN: 16 May 1992  
TI Preparation of biscyclohexanol  
IN Yamashita, Noboru; Nishiyama, Shizuo  
PA New Japan Chemical Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C07C035-21  
ICS B01J023-74; C07C029-19  
ICA C07B061-00  
CC 24-5 (Alicyclic Compounds)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03275637	A2	19911206	JP 1990-74500	19900323
	JP 2520759	B2	19960731		
PRAI	JP 1990-74500		19900323		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 03275637	ICM	C07C035-21
	ICS	B01J023-74; C07C029-19
	ICA	C07B061-00

OS CASREACT 116:193780; MARPAT 116:193780

AB The title compound (I) is prepared by hydrogenation of bisphenol in  $\geq 1$   
RO(R1O)nH (R = C1-5 alkyl; R1 = C2-4 alkylene; total C of R and R1 is  
 $\leq 7$ ). Autoclaving 4,4'-bisphenol and MeOCH<sub>2</sub>CHMeOH in the presence  
of SN-300 (Ni catalyst) at 170° under 50 kg/cm<sup>2</sup> H for 120 min gave  
98.7% 4,4'-I.

ST biscyclohexanol prepn; biphenol hydrogenation solvent glycol ether  
IT Solvents  
(alkylene glycol monoalkyl ethers, for hydrogenation of biphenol)

IT Hydrogenation  
(of bisphenol, solvents for, glycol monoalkyl ethers as)

IT Alcohols, uses  
RL: USES (Uses)  
(alkoxy, solvents, for hydrogenation of biphenol)

IT 92-88-6, 4,4'-Dihydroxydiphenyl 1806-29-7, 2,2'-Dihydroxydiphenyl  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation of, solvents for, glycol monoalkyl ethers as)

IT 1333-74-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation, of bisphenol, solvents for, glycol monoalkyl ethers as)

IT 17385-36-3P, [1,1'-Bicyclohexyl]-2,2'-diol 20601-38-1P,  
4,4'-Dihydroxydicyclohexane

STN search for 10665009

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, by hydrogenation of biphenol, solvents in)  
IT 111-76-2, Ethylene glycol monobutyl ether 111-77-3, Diethylene glycol  
monomethyl ether 1320-67-8, Propylene glycol monomethyl ether  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(solvent, for hydrogenation of biphenol)

L8 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1992:129941 CAPLUS  
DN 116:129941  
ED Entered STN: 03 Apr 1992  
TI Fluorine-containing polycarbonates with low double refraction and good  
transparency  
IN Sugimori, Shigeru; Kondo, Tomoyuki  
PA Chisso Corp., Japan  
SO Jpn. Kokai Tokyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08G064-10  
ICS C08G064-00; G11B005-62; G11B007-24  
CC 35-5 (Chemistry of Synthetic High Polymers)

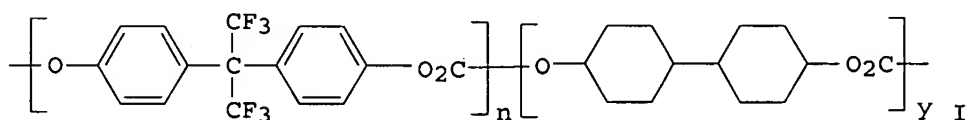
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03259920	A2	19911120	JP 1990-59156	19900309
PRAI	JP 1990-59156		19900309		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 03259920	ICM	C08G064-10
	ICS	C08G064-00; G11B005-62; G11B007-24

GI



AB Title polycarbonates with good heat resistance useful as optical materials  
have the repeating units trans,trans-I ( $x + y = 1$ ;  $x, y \geq 0.1$ ).  
Thus, trans,trans-4,4'-bicyclohexanediol 2.7, 2,2-bis(4-hydroxyphenyl)-  
1,1,1,3,3,3-hexafluoropropane 0.3, and trichloromethyl chloroformate 1.7  
mmol were treated in  $\text{CH}_2\text{ClCH}_2\text{Cl}$  and pyridine to obtain a polycarbonate  
with glass transition temperature  $151^\circ$  and decomposition temperature  $287^\circ$  (no  
m.p.) in 93.0% yield.  
ST fluorine contg polycarbonate double refraction; transparency fluorine  
contg polycarbonate heatproof; optical material fluorine contg  
polycarbonate  
IT Transparent materials  
(fluoro-containing polycarbonates, preparation of)  
IT Polycarbonates, preparation  
RL: PREP (Preparation)  
(fluorine-containing, preparation of, with low double refraction and good  
transparency)  
IT Fluoropolymers  
RL: PREP (Preparation)

STN search for 10665009

(polycarbonate-, preparation of, with low double refraction and good transparency)  
IT 88216-48-2P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)  
IT 139624-36-5P  
RL: PREP (Preparation)  
(preparation of, with low double refraction and good transparency)  
IT 20601-38-1, 4,4'-Bicyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with benzoyl chloride)  
IT 98-88-4, Benzoyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with bicyclohexanediol)

L8 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:42247 CAPLUS

DN 116:42247

ED Entered STN: 08 Feb 1992

TI Optically active cyclohexane ring-containing polyesters for liquid crystals

IN Sugimori, Shigeru; Kondo, Tomoyuki

PA Chisso Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G063-199

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 75

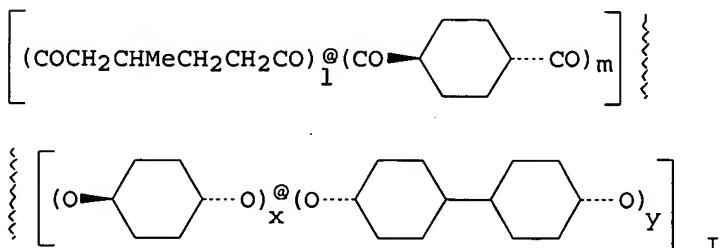
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03103430	A2	19910430	JP 1989-239115	19890914
PRAI	JP 1989-239115		19890914		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 03103430	ICM	C08G063-199

GI



AB Melt-moldable title polymers I ( $1 + m = x + y = 1$ ) are prepared Thus, polymerization of 5 mmol (R)-(+)-3-methyladipoyl chloride and 5 mmol trans,trans-4,4'-bicyclohexanediol in 1,2,4-trichlorobenzene at room temperature for 15 min and at 220° for 3 h gave 83% liquid-crystalline polyester with intrinsic viscosity 0.29 and decomposition temperature 302.1°.

STN search for 10665009

ST cyclohexylene polyester liq cryst manuf; methyladipate polyester chiral  
liq cryst; melt moldable polyester liq crystal  
IT Liquid crystals  
(polyesters, cyclohexane ring-containing, chiral, manufacture of)  
IT Polyesters, preparation  
RL: PREP (Preparation)  
(cyclohexyl group-containing, preparation of, as chiral liquid crystal)  
IT 556-48-9, 1,4-Cyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(acetylation of)  
IT 20601-38-1, 4,4'-Bicyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzylation of)  
IT 619-82-9, trans-1,4-Cyclohexanedicarboxylic acid 623-82-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chlorination of)  
IT 6289-83-4P, trans-1,4-Cyclohexanediol diacetate 88216-48-2P,  
trans,trans-4,4'-Bicyclohexanediol dibenzoate  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)  
IT 6995-79-5P, trans-1,4-Cyclohexanediol 19988-54-6P 46310-14-9P,  
trans,trans-4,4'-Bicyclohexanediol 88342-70-5P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and polymerization of)  
IT 136441-35-5P 136441-36-6P 136441-37-7P 136441-38-8P 136460-72-5P  
136460-75-8P  
RL: PREP (Preparation)  
(preparation of, as chiral liquid crystal)

L8 ANSWER 24 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1991:450554 CAPLUS  
DN 115:50554  
ED Entered STN: 10 Aug 1991  
TI Liquid-crystalline cyclohexane ring-containing aromatic polyesters  
IN Sugimori, Shigeru; Kondo, Tomoyuki  
PA Chisso Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08G063-199  
ICS C08G063-199; C08G063-682  
CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 37, 75

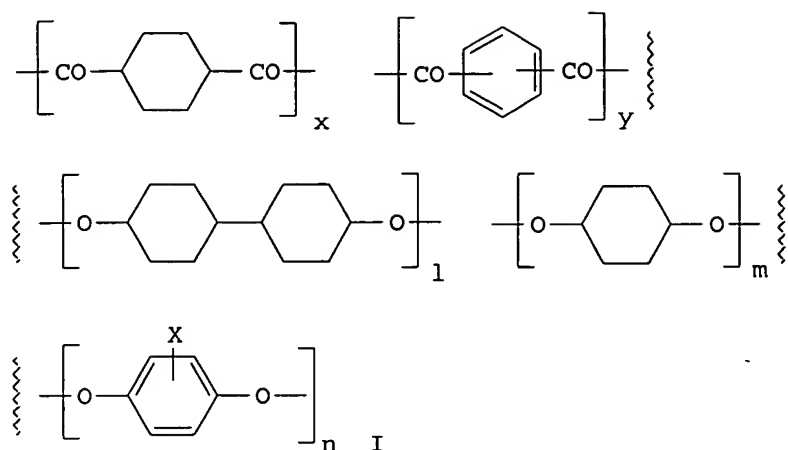
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03021633	A2	19910130	JP 1989-157489	19890620
PRAI	JP 1989-157489		19890620		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 03021633	ICM	C08G063-199
	ICS	C08G063-199; C08G063-682

GI



- AB The title polymers, having good heat resistance, are prepared from trans-1,4-cyclohexanedicarbonyl chloride (I), trans,trans-4,4'-bicyclohexanediol (II), trans-1,4-cyclohexanediol, terephthaloyl chloride (III), isophthaloyl chloride, hydroquinone, and/or halo-, methyl-, or phenylhydroquinone. Polymerization of I 0.3, II 1, and III 0.7 mol in trichlorobenzene at room temperature for 15 min and at 220° for 5 h gave 93.4% liquid-crystalline polyester with decomposition temperature 344.1°.
- ST cyclohexanediol polyester liq crystal; cyclohexanedicarbonyl chloride polyester liq crystal; bicyclohexanediol polyester liq crystal; cyclohexane deriv polyester liq crystal; terephthalic polyester liq crystal; isophthalic polyester liq crystal; hydroquinone polyester liq crystal; heat resistance polyester liq crystal
- IT Liquid crystals  
(polyesters, cyclohexane ring-containing, heat-resistant, preparation of)
- IT Heat-resistant materials  
(polyesters, cyclohexane ring-containing, liquid-crystalline)
- IT Polyesters, preparation  
RL: PREP (Preparation)  
(cyclohexyl group-containing, preparation of liquid-crystalline, heat-resistant)
- IT 556-48-9, 1,4-Cyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(acetylation of)
- IT 20601-38-1, 4,4'-Bicyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzoylation of)
- IT 619-82-9, trans-1,4-Cyclohexanedicarboxylic acid  
RL: PROC (Process)  
(conversion of, to acid chloride)
- IT 6289-83-4P, trans-1,4-Cyclohexanediol diacetate 88216-48-2P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)
- IT 6995-79-5P, trans-1,4-Cyclohexanediol 19988-54-6P 46310-14-9P, trans,trans-4,4'-Bicyclohexanediol  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and polymerization of)
- IT 134415-44-4P 134526-36-6P 134526-37-7P 134526-38-8P 134526-39-9P  
134526-40-2P 134526-41-3P 134526-42-4P 134526-43-5P 134526-44-6P  
134526-45-7P 134526-46-8P 134528-04-4P  
RL: PREP (Preparation)

STN search for 10665009

(preparation of liquid-crystalline, heat-resistant)

L8 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1991:229669 CAPLUS  
DN 114:229669  
ED Entered STN: 15 Jun 1991  
TI Bicyclohexanediol-based liquid-crystalline polyesters  
IN Sugimori, Shigeru; Kondo, Tomoyuki  
PA Chisso Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08G063-199  
CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 75

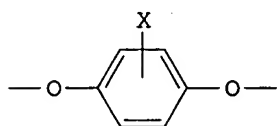
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02308813	A2	19901221	JP 1989-131095	19890524
PRAI	JP 1989-131095		19890524		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 02308813	ICM	C08G063-199

GI



III

AB The title polyesters with intrinsic viscosity ( $\eta$ ) 0.1-2.0 and containing units COZCO (Z = cis- or trans-cyclohexylene), OZ2O (I), OZO (II), and III (X = H, Cl, Me, Ph, C<sub>6</sub>H<sub>4</sub>Cl), at mol ratio I-II-III-(I + II + III) = (0.05-0.95):(0.00-0.60):(0.05-0.75):1, show good stability at  $\geq 300^\circ$  and give products with improved mech. strength. Thus, trans,trans-4,4'-bicyclohexanediol 10, phenylhydroquinone 10, and trans-1,4-cyclohexanedicarbonyl chloride 20 mmol were polymerized in 1,2,4-trichlorobenzene at  $220^\circ$  for 5 h to give 83.7% polyester with  $\eta$  0.67 and thermal decomposition temperature  $346.4^\circ$ , showing a liquid crystalline phase at  $\geq 291.3^\circ$ .

ST bicyclohexanediol polyester liq crystal prepn; heat resistance polyester liq crystal; cyclohexanedicarboxylate polyester liq crystal manuf

IT Polyesters, preparation

RL: PREP (Preparation)

(bicyclohexanediol-based, preparation of, liquid-crystalline, with good heat resistance)

IT Heat-resistant materials

(polyesters, bicyclohexanediol-based, liquid-crystalline, manufacture of)

IT Liquid crystals

(polyesters, bicyclohexanediol-based, preparation of, heat-resistant)

IT 556-48-9, 1,4-Cyclohexanediol

RL: RCT (Reactant); RACT (Reactant or reagent)  
(acetylation of)



STN search for 10665009

IT 20601-38-1, 4,4'-Bicyclohexanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzoylation of)  
IT 619-82-9, trans-1,4-Cyclohexanedicarboxylic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chlorination of)  
IT 6289-83-4P, trans-1,4-Cyclohexanediol diacetate 88216-48-2P,  
trans,trans-4,4'-Bicyclohexanediol dibenzoate  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)  
IT 1938-00-7P 6995-79-5P, trans-1,4-Cyclohexanediol 19988-54-6P  
46310-14-9P, trans,trans-4,4'-Bicyclohexanediol  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and polymerization of)  
IT 133814-27-4P 133814-28-5P 133814-29-6P 133814-30-9P 133814-31-0P  
133814-32-1P 133814-33-2P 133814-34-3P 133814-35-4P 133814-36-5P  
133814-37-6P 133814-38-7P 133814-39-8P 133814-40-1P 133814-41-2P  
133814-42-3P  
RL: PREP (Preparation)  
(preparation of, liquid-crystalline, with good thermal stability)

L8 ANSWER 26 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1989:544571 CAPLUS  
DN 111:144571  
ED Entered STN: 14 Oct 1989  
TI Fluorophenyl cyclohexylcyclohexene derivatives  
IN Tanaka, Yasuyuki; Takatsu, Haruyoshi; Takeuchi, Kiyohumi; Tamura, Yuuji  
PA Dainippon Ink Chemical Industry Co., Japan  
SO Eur. Pat. Appl., 25 pp.  
CODEN: EPXXDW

DT Patent  
LA English  
IC ICM C07C025-18  
ICS C07D317-72; C09K019-30  
CC 75-11 (Crystallography and Liquid Crystals)  
Section cross-reference(s): 24, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 310067	A2	19890405	EP 1988-116069	19880929
	EP 310067	A3	19901031		
	EP 310067	B1	19940119		
	R: CH, DE, GB, LI				
	JP 01106830	A2	19890424	JP 1987-264532	19871020
	JP 2508142	B2	19960619		
	JP 01156935	A2	19890620	JP 1988-211495	19880825
	JP 2743390	B2	19980422		
	JP 10147549	A2	19980602	JP 1997-224836	19880825
	US 4910350	A	19900320	US 1988-250283	19880928
	US 5089629	A	19920218	US 1990-565790	19900813
PRAI	JP 1987-245240		19870929		
	JP 1987-264532		19871020		
	JP 1988-211495		19880825		
	US 1988-250283		19880928		
	US 1989-414234		19890929		

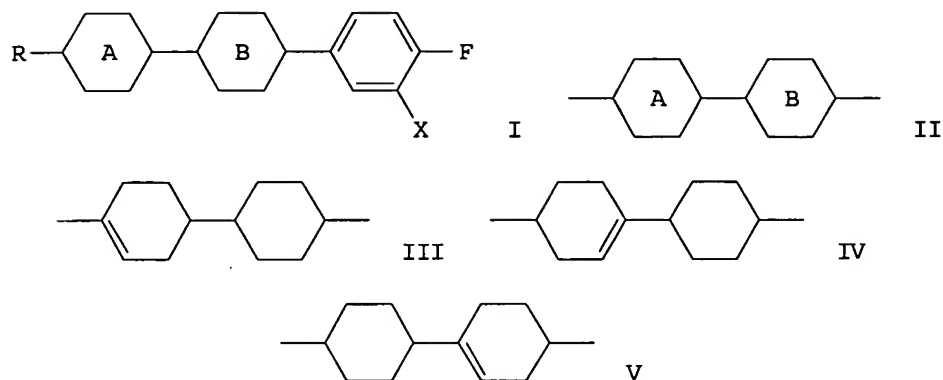
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 310067	ICM	C07C025-18
	ICS	C07D317-72; C09K019-30

STN search for 10665009

OS CASREACT 111:144571; MARPAT 111:144571

GI



AB The compds., useful in liquid-crystal display devices, have the general formula I, where R = linear C1-9 alkyl; the group II = III, IV, or V; X = H or F; and the cyclohexylene group has a trans configuration.

ST fluorophenylcyclohexylcyclohexene deriv liq crystal; cyclohexylcyclohexene deriv liq crystals; display device fluorophenylcyclohexylcyclohexene deriv liq crystal

IT Liquid crystals

(fluorophenylcyclohexylcyclohexene derivs.)

IT Optical imaging devices

(electro-, liquid-crystal, fluorophenylcyclohexylcyclohexene derivs. for)

IT 352-13-6P 20601-38-1P, [1,1'-Bicyclohexyl]-4,4'-diol

23391-99-3P, [1,1'-Bicyclohexyl]-4,4'-dione 40503-86-4P 56309-94-5P

80912-56-7P 122770-32-5P 122770-33-6P 122770-34-7P 122770-35-8P

122770-36-9P 122770-37-0P 122770-38-1P 122770-39-2P 122770-40-5P

122770-41-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of, in formation of fluorophenylcyclohexylcyclohexene derivs.)

IT 120091-73-8P 122770-19-8P 122770-20-1P 122770-21-2P 122770-22-3P

122770-23-4P 122770-24-5P 122770-25-6P 122770-26-7P 122770-27-8P

122770-28-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, for liquid-crystal display devices)

IT 92-88-6, [1,1'-Biphenyl]-4,4'-diol 106-94-5 110-53-2 348-61-8

460-00-4 4746-97-8, 1,4-Dioxaspiro[4.5]decan-8-one 122770-29-0

122770-30-3 122770-31-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, in formation of fluorophenylcyclohexylcyclohexene derivs.)

L8 ANSWER 27 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1984:511591 CAPLUS

DN 101:111591

ED Entered STN: 29 Sep 1984

TI Cycloaliphatic diglycidyl ethers

IN Monnier, Charles E.

PA Ciba-Geigy A.-G., Switz.

SO Eur. Pat. Appl., 19 pp.

STN search for 10665009

CODEN: EPXXDW  
DT Patent  
LA German  
IC C07D303-28; C07C043-188; C08G059-04  
CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 27

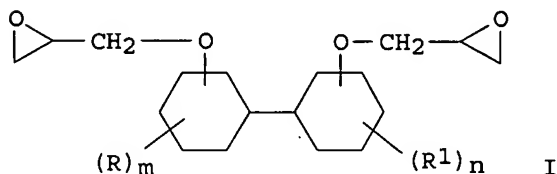
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 108720	A1	19840516	EP 1983-810499	19831031
	EP 108720	B1	19870304		
	R: CH, DE, FR, GB, LI				
	CA 1243045	A1	19881011	CA 1983-440253	19831102
	JP 59231078	A2	19841225	JP 1983-207311	19831104
PRAI	CH 1982-6414		19821104		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 108720	IC	C07D303-28IC C07C043-188IC C08G059-04

GI



AB Unsubstituted or alkyl-substituted diglycidyl ethers (I; R,R' = C1-4 alkyl; m, n = 0, 1, 2) for epoxy resins are prepared from unsubstituted or alkyl-substituted diols by glycidylation with glycerin dihalohydrin or epihalohydrin or by reaction with allyl chloride or bromide and subsequently epoxidizing the diallyl ether. Thus, 185 g (2.0 mol) epichlorohydrin [20601-38-1] was added to 194.0 g (0.98 mol) 1,1'-dicyclohexyl-4,4'-diol [106-89-8] and 5.4 g SnCl<sub>4</sub> over 1.5 h at 85°, the reaction mixture was allowed to react for an addnl. 15 min, and then 100 g NaOH was added over 30 min. The reaction mixture was worked up to give 249 g colorless diepoxide [91829-32-2] with epoxide content 4.69 equiv/kg and viscosity 550 mPa·s.

ST epichlorohydrin glycidylation bicyclohexyldiol; glycidyl ether bicyclohexyl prepn

IT Epoxidation

(of bicyclohexyldiol diallyl ethers, with hydrogen peroxide and acetonitrile)

IT Epoxides

RL: PREP (Preparation)

(di-, preparation of, from bicyclohexyldiols)

IT 20601-38-1 91829-36-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(etherification of, with epichlorohydrin)

IT 91829-33-3P 91829-34-4P

RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture and epoxidn. of, with hydrogen peroxide and acetonitrile)

IT 91829-32-2P 91829-35-5P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(manufacture and properties of)

IT 71837-16-6

STN search for 10665009

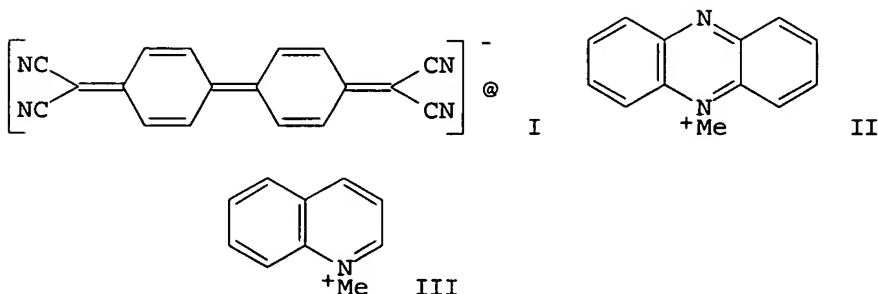
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with allyl bromide)  
IT 106-95-6, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with bicyclohexyldiol)  
IT 106-89-8, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with bicyclohexyldiols)  
IT 17385-36-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with epichlorohydrin)

L8 ANSWER 28 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1984:175450 CAPLUS  
DN 100:175450  
ED Entered STN: 26 May 1984  
TI Polymeric nitroso dimers  
AU Donaruma, L. G.; Dandge, D.  
CS Dep. Chem., Polytech. Inst. New York, Brooklyn, NY, 11201, USA  
SO Polymer Preprints (American Chemical Society, Division of Polymer  
Chemistry) (1982), 23(2), 108-9  
CODEN: ACPPAY; ISSN: 0032-3934  
DT Journal  
LA English  
CC 35-7 (Chemistry of Synthetic High Polymers)  
AB Bisphenol A [80-05-7] and 4,4'-dihydroxybiphenyl [92-88-6] were  
hydrogenated to give 4,4'-isopropylidenedicyclohexanol [80-04-6] and  
[bicyclohexyl]-4,4'-diol [20601-38-1], which were oxidized to  
give 4,4'-isopropylidenedicyclohexanone [7418-16-8] and  
[bicyclohexyl]-4,4'-dione [23391-99-3], which were oximated to give  
4,4'-isopropylidenedicyclohexane dioxime [7418-18-0] and [bicyclohexyl]  
4,4'-dioxime [19925-16-7], which were treated with CF<sub>3</sub>CO<sub>3</sub>H to give  
4,4'-dinitroisopropylidenedicyclohexane (I) [89905-81-7] and  
4,4'-dinitro[bicyclohexyl] (II) [89905-83-9], which were polymerized to give  
I polymer [89905-82-8] and II polymer [89905-84-0].  
ST nitroso dimer polymer; bisphenol A hydrogenation; dihydroxybiphenyl  
hydrogenation; isopropylidenedicyclohexanol oxidn; bicyclohexyldiol oxidn;  
isopropylidenedicyclohexane oximation; bicyclohexyldione oximation;  
dinitroisopropylidenedicyclohexane polymer; dinitrobicyclohexyl polymer  
IT Nitroso compounds  
RL: USES (Uses)  
(dimers, polymerizable)  
IT Polymerization  
(of dinitro aromatic compds.)  
IT 92-88-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation of, to [bicyclohexyl]diol)  
IT 80-05-7, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation of, to isopropylidenedicyclohexanol)  
IT 89905-84-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(oligomers, preparation of)  
IT 20601-38-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and oxidation of, to [bicyclohexyl]dione)  
IT 19925-16-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

STN search for 10665009

(preparation and oxidation of, to dinitro[bicyclohexyl])  
IT 7418-18-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and oxidation of, to dinitroisopropylidenedicyclohexane)  
IT 80-04-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and oxidation of, to isopropylidenedicyclohexanone)  
IT 23391-99-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and oximation of, to [bicyclohexyl] dioxime)  
IT 7418-16-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and oximation of, to isopropylidenedicyclohexane dioxime)  
IT 89905-81-7P 89905-83-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and polymerization of)  
IT 89905-82-8P 89928-15-4P 89928-16-5P 89928-17-6P 89928-18-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L8 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1980:445680 CAPLUS  
DN 93:45680  
ED Entered STN: 12 May 1984  
TI Syntheses and electrical properties of  $\alpha,\alpha,\alpha',\alpha'$ -tetracyanodiphenodimethan complexes  
AU Morinaga, Minoru; Nogami, Takashi; Mikawa, Hiroshi  
CS Fac. Eng., Osaka Univ., Suita, 565, Japan  
SO Bulletin of the Chemical Society of Japan (1979), 52(12), 3739-40  
CODEN: BCSJA8; ISSN: 0009-2673  
DT Journal  
LA English  
CC 22-8 (Physical Organic Chemistry)  
Section cross-reference(s): 76  
GI



AB The charge-transfer complexes, I·II and I·III were prepared  
The elec. resistivities with pressed pellet samples were  $7.1 \times 10^8$

STN search for 10665009

- $\Omega$  cm for I·II and  $6.9 + 10^7$   $\Omega$  cm for I·III; they are much less conductive than the corresponding TCNQ-• complexes.
- ST charge transfer complex elec cond; cyanodiphenoquinodimethan methylphenazinium elec cond; methylquinolinium cyanodiphenoquinodimethan elec cond; TCNQ methylquinolinium cyanodiphenoquinodimethan elec cond
- IT Ultraviolet and visible spectra  
(of charge-transfer complexes between  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenoquinodimethan with N-Me quaternary nitrogen heterocyclic compds. in solution and solid states)
- IT Electric conductivity and conduction  
Electron spin resonance  
g-factor  
(of charge-transfer complexes between N-Me nitrogen heterocyclic quaternary compds. and  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenoquinodimethan radical anion)
- IT Charge-transfer complexes  
RL: PRP (Properties)  
(of  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenoquinodimethan radical anion with N-Me quaternary nitrogen heterocyclic cations, spectra and elec. conductivity of)
- IT Crystal structure types  
(1-dimensional, of charge-transfer complexes between N-Me nitrogen heterocyclic quaternary compds. and  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenoquinodimethan radical anion)
- IT Radical ions  
(anions,  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenoquinodimethan, elec. conductivity of nitrogen heterocyclic salts of)
- IT Energy level excitation  
(charge-transfer, in  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenodimethan radical anion salts with N-Me nitrogen heterocyclic cations)
- IT Crystal structure-property relationship  
(elec. conductivity, of  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenoquinodimethan radical anion salts with N-Me quaternary nitrogen heterocyclic cations)
- IT Infrared spectra  
(near-, of  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenoquinodimethan radical anion complexes with N-Me nitrogen heterocyclic cation)
- IT 1667-10-3 7255-83-6 20248-86-6  
RL: PRP (Properties)  
(as synthetic intermediate for  $\alpha, \alpha, \alpha', \alpha'$ -tetracyanodiphenoquinodimethan)
- IT 128-08-5 516-12-1  
RL: PRP (Properties)  
(attempted dehydrogenation of bis(dicyanomethylene)bicyclohexyl by)
- IT 109-77-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(dicondensation reaction of, with bicyclohexanone)
- IT 7440-02-0, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation of p,p'-dihydroxybiphenyl over, dihydroxybicyclohexyl from)
- IT 92-88-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation of, over nickel, dihydroxybicyclohexyl from)
- IT 299-11-6 3947-76-0  
RL: PRP (Properties)

STN search for 10665009

(ion exchange reaction of, with sodium  $\alpha,\alpha,\alpha',\alpha'$ -tetracyanodiphenodimethan radical anion, elec. conductive salt from)

IT 68272-00-4  
RL: PRP (Properties)  
(ion exchange reaction of, with N-methylquinolinium iodide or N-methylphenazinium Me sulfate, elec. conductive salt from)

IT 1333-82-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidation of dihydroxybicyclohexyl by, bicyclohexanone from)

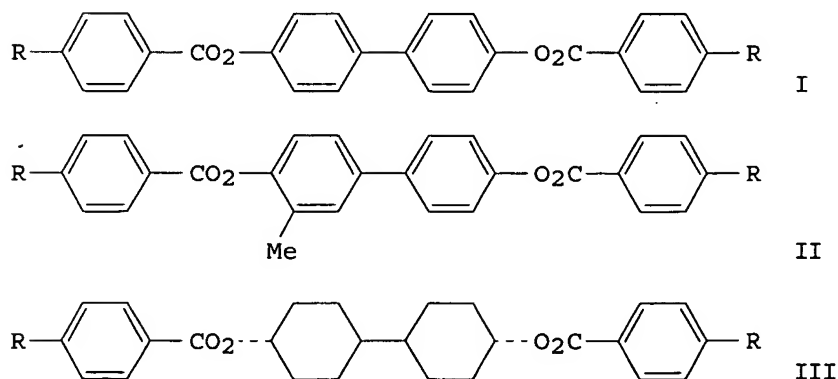
IT 64596-43-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and attempted dehydrogenation of, by N-bromo- or N-iodosuccinimide)

IT 20601-38-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and chromic trioxide oxidation of)

IT 23391-99-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and dicondensation of, with malononitrile)

IT 74226-35-0P 74226-36-1P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation, UV, IR, and elec. conductivity of)

L8 ANSWER 30 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1976:523517 CAPLUS  
DN 85:123517  
ED Entered STN: 12 May 1984  
TI Liquid-crystal compounds. VI. Synthesis and mesomorphism of esters of 4,4'-dihydroxybiphenyl and its analogs  
AU Karamysheva, L. A.; Kovshev, E. I.; Titov, V. V.  
CS Nauchno-Issled. Inst. Org. Poluprod. Krasitelei, Moscow, USSR  
SO Zhurnal Organicheskoi Khimii (1976), 12(7), 1508-11  
CODEN: ZORKAE; ISSN: 0514-7492  
DT Journal  
LA Russian  
CC 25-18 (Noncondensed Aromatic Compounds)  
Section cross-reference(s): 75  
GI



AB Esters I (R = H, C1-6 alkyl, C1-8-alkoxy), II (R = Me, Pr, C5H11, BuO, C6H13O, C7H15O), and III (R = Bu, C6H13, BuO, C5H11O, C6H13O, C7H15O) were prepared by reaction of the diols with the resp. acid chloride. The temps. of phase conversions of I, II, and III were determined. The diol portion of the mol. might be responsible for the geometric and electronic factors in the mesomorphism of I, II, and III.

ST liq crystal biphenyldiol alkoxybenzoate; mesomorphism dicyclohexanediol alkylbenzoate

IT Liquid crystals

(esters of dihydroxybiphenyl and its analogs)

IT 1819-06-3P 1819-07-4P 1962-78-3P 2505-83-1P 60469-90-1P  
 60469-91-2P 60469-92-3P 60469-93-4P 60469-94-5P 60469-95-6P  
 60469-96-7P 60469-97-8P 60469-98-9P 60469-99-0P 60470-00-0P  
 60470-01-1P 60470-02-2P 60470-03-3P 60470-04-4P 60470-05-5P  
 60470-06-6P 60470-07-7P 60470-08-8P 60470-09-9P 60536-34-7P  
 60536-35-8P 60536-36-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and mesomorphism of)

IT 92-88-6 20601-38-1 60470-10-2

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with benzoyl chloride derivs.)

IT 98-88-4 100-07-2 874-60-2 16331-45-6 16331-46-7 28788-62-7  
 33863-86-4 36823-84-4 39649-71-3 40782-53-4 40782-54-5  
 40782-58-9 49763-65-7 50606-95-6 52710-27-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with dihydroxybiphenyl and its analogs)

L8 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1974:132907 CAPLUS

DN 80:132907

ED Entered STN: 12 May 1984

TI Dicyclohexylamines from dicyclohexanols

IN Brake, Loren D.

PA du Pont de Nemours, E. I., and Co.

SO Ger., 4 pp.

CODEN: GWXXAW

DT Patent

LA German

IC C07C

CC 24-5 (Alicyclic Compounds)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 1468779	A	19690626	DE 1964-P35432	19641103
	DE 1468779	B2	19740103		
	DE 1468779	C3	19740808		
PRAI	DE 1964-P35432		19641103		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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DE 1468779	IC	C07C
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GI For diagram(s), see printed CA Issue.

AB The [bicyclohexyl]amines I and II (Z = CH<sub>2</sub>, CMe<sub>2</sub>) were prepared by the reaction of the corresponding dicyclohexanols with NH<sub>3</sub> at 275-300°, using Ru, RuO<sub>2</sub>, Pd, Raney Ni, or Raney Co as catalysts.

ST cyclohexylamine di; bicyclohexyldiamine

IT 7440-02-0, uses and miscellaneous 7440-05-3, uses and miscellaneous  
 7440-18-8, uses and miscellaneous 7440-48-4, uses and miscellaneous



STN search for 10665009

12036-10-1  
RL: CAT (Catalyst use); USES (Uses)  
(catalyst, for dicyclohexanol reaction with ammonia)  
IT 80-05-7, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation and ammonolysis of)  
IT 1761-71-3P 3377-24-0P 6492-07-5P 52314-58-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
IT 80-04-6 20178-33-0 20601-38-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with ammonia)

L8 ANSWER 32 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1969:450375 CAPLUS  
DN 71:50375  
ED Entered STN: 12 May 1984  
TI Oxidation of primary and secondary alcohols  
IN Parikh, Jekishan R.; Doering, William v. E.  
PA Upjohn Co.  
SO U.S., 7 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
IC C07C  
NCL 260397450  
CC 32 (Steroids)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3444216	A	19690513	US 1966-594700	19661116
	IL 28753	A1	19711129	IL 1967-28753	19671011
	GB 1190257	A	19700429	GB 1967-1190257	19671023
	NL 6715351	A	19680517	NL 1967-15351	19671113
	BE 706599	A	19680516	BE 1967-706599	19671116
	CH 493449	A	19700715	CH 1967-493449	19671116
PRAI	US 1966-594700		19661116		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3444216	IC	C07C
	NCL	260397450

AB Primary and secondary alcs. are oxidized to the corresponding aldehydes and ketones by reaction with a liquid hydrocarbon sulfoxide and SO<sub>3</sub> in the presence of a tertiary amine. Thus, to a solution of 0.813 g. 11 $\beta$ ,17 $\alpha$ ,20 $\alpha$ ,21-tetrahydroxy-4-pregnen-3-one 21-acetate (I) in a mixture of 10 ml. Me<sub>2</sub>SO and 0.5 ml. Et<sub>3</sub>N, SO<sub>3</sub> is added portionwise until no starting material is detectable by thin layer chromatog. After addition of each increment of SO<sub>3</sub>, sufficient Et<sub>3</sub>N is added to maintain pH .apprx.8. Hydrocortisone acetate (II) is obtained in 80-90% yield, based on starting material. In variations of this process, I is reacted under N with solid pyridine-SO<sub>3</sub> complex (III) at 0° to give 77% II, the structure of which was confirmed by N.M.R. Reaction of I with III in Me<sub>2</sub>SO 6 min. at 20° gives 90-5% II, m. 217.5-19.5°; [ $\alpha$ ]<sub>D</sub>, 163° (1%, dioxane). Similarly, 16-dehydropregnenolone is oxidized to 45% 16-dehydropregesterone, m. 186-9°. Ergosta-4,7,22-trien-3-one is obtained in 50% yield by oxidation of ergosterol. Under similar reaction conditions, 17 $\alpha$ ,20-epoxy-11 $\beta$ ,21-dihydroxy-4-pregnen-3-one is oxidized to 17 $\beta$ ,20-epoxy-11 $\beta$ -hydroxy-4-pregnen-3-on-21-al; hydrocortisone is oxidized to

STN search for 10665009

11 $\beta$ ,17 $\alpha$ -dihydroxy-4-pregnene-3,20-dione-21-al;  
19-hydroxy-4-sitosten-3-one is oxidized to 4-sitosten-3-one-19-al,  
11 $\beta$ ,17 $\alpha$ ,20 $\alpha$ ,21-tetrahydroxy-4-pregnen-3-one is oxidized  
to a mixture of hydrocortisone and 11 $\beta$ ,17 $\alpha$ -dihydroxy-4-pregnene-  
3,20-dione-21-al; 16 $\alpha$ ,17 $\alpha$ -epoxypregnenolone is oxidized to  
16 $\alpha$ ,17 $\alpha$ -epoxyprogesterone; perillyl alcohol is oxidized to  
perillylaldehyde; epitestosterone and testosterone are oxidized to  
4-androstene-3,17-dione; 11 $\alpha$ -hydroxyprogesterone is oxidized to  
11-oxo-progesterone;  $\beta$ -cholestanol is oxidized to  
5 $\alpha$ -cholestanone, m. 127.5-29°; l-menthol is oxidized to  
l-menthone; p-nitrobenzyl alcohol is oxidized to p-nitrobenzaldehyde;  
cyclododecane-1,6-diol is oxidized to cyclododecane-1,6-dione;  
4,4'-dihydroxybi-cyclohexyl in tetramethylene sulfoxide is oxidized to  
4,4'-dioxobicyclohexyl; 3'-O-acetylthymidine is oxidized to  
3'-O-acetylthymidine-5'-aldehyde; bicyclo[3.2.1]octan-6-ol is oxidized to  
bicyclo[3.2.1]octan-6-one, m. 157-8°; cyclobutanemethanol is  
oxidized to cyclobutanecarboxaldehyde, b., 116-17°; and  
11 $\beta$ , -17 $\alpha$ ,20 $\alpha$ ,21-tetrahydroxy-1,4-pregnadien-3-one  
21-acetate is oxidized to prednisolone acetate.

ST menthols oxidn; oxidn alcs general; alcs oxidn general; steroidal alcs  
oxidn; pregnane alcs oxidn; nucleosides oxidn; cyclohexyl alcs oxidn;  
benzyl alcs oxidn; genin alcs oxidn

IT Oxidation

(of alcs.)

IT Alcohols, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidation of)

IT 57-83-0P, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of)

IT 57-87-4 58-22-0, reactions 80-75-1 80-97-7 145-15-3 481-30-1  
619-73-8 1162-53-4 2216-51-5 3494-53-9 4415-82-1 10026-44-5  
14435-21-3 20601-38-1 21090-30-2 23392-00-9

RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidation of)

IT 50-03-3P 63-05-8P 516-15-4P 555-16-8P 566-88-1P 1096-38-4P  
2987-17-9P 3189-86-4P 6553-12-4P 10329-89-2P 23391-99-3P  
23398-09-6P 23398-16-5P 23454-50-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L8 ANSWER 33 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1968:458386 CAPLUS

DN 69:58386

ED Entered STN: 12 May 1984

TI 4-Morpholino-4'-hydroxy bicyclohexyls

IN Fonken, Gunther S.; Herr, Milton E.; Murray, Herbert C.

PA Upjohn Co.

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

NCL 260247700

CC 16 (Fermentations)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3392171	A	19680709	US 1966-602164	19661216
PRAI	US 1966-602164		19661216		
CLASS					

STN search for 10665009

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

US 3392171 NCL 260247700

AB Oxygenation by microorganisms introduces OH or C:O into the unsubstituted ring of substituted bicyclohexyl compds. Thus, a 72-hr. vegetative growth of Cunninghamella blakesleeana ATCC 8688A was added to 10 l. medium containing 200 g. cornsteep liquor (60% solids), 100 g. dextrose, and 10 ml. lard oil at pH 4.9. After 24 hrs. at 28° with air at 0.5 l./min. and stirring at 300 rpm., 2.5 g. 4-hydroxybicyclohexyl (I) in 25 ml. HCONMe<sub>2</sub> was added. After 72-hr. fermentation, a CH<sub>2</sub>Cl<sub>2</sub> extract of the beer gave a residue that was dissolved in 25 ml. CH<sub>2</sub>Cl<sub>2</sub>, chromatographed on Florisil, and eluted by Skellysolve B containing increasing amts. of Me<sub>2</sub>CO. From the eluates, 4-hydroxy-4'-oxobicyclohexyl, m. 115-22°, and 4,4'-dihydroxybicyclohexyl, m. 214-19°, were separated. The oxidation of I in Me<sub>2</sub>CO by CrO<sub>3</sub> at 25° gave 4-oxobicyclohexyl, of which 45 g. was added to 49.5 ml. piperidine in 20 ml. 98% HCO<sub>2</sub>H. The mixture was refluxed for 5 hrs., and the precipitate forming after 12 hrs. at room temperature was separated.

From its solution in Me<sub>2</sub>CO, crystallization yielded 20 g. 4-piperidinobicyclohexyl, C<sub>17</sub>H<sub>31</sub>N, m. 145-6°; HCl compound m. 278-80°. The preparation of the title compound is also described.

ST fermn bicyclohexyls; bicyclohexyls fermn; morpholine compds fermn; cyclohexyl compds fermn

IT Fermentation  
(4-morpholino-4'-hydroxybicyclohexyls)

IT 20601-38-1 20601-39-2 20602-03-3 20653-38-7 20653-39-8  
20653-40-1 20770-13-2

RL: FORM (Formation, nonpreparative)  
(formation of, by fermentation)

IT 20653-37-6  
RL: BIOL (Biological study)  
(isomers)

IT 20653-41-2P 20653-42-3P 20653-43-4P 20818-96-6P  
RL: PREP (Preparation)  
(preparation of)

L8 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1961:37890 CAPLUS

DN 55:37890

OREF 55:7349a-h

ED Entered STN: 22 Apr 2001

TI Synthesis of methyl-substituted p-oligophenylenes

AU Kern, W.; Gruber, W.; Wirth, H. O.

CS Univ. Mainz, Germany

SO Makromolekulare Chemie (1960), 37, 198-216

CODEN: MACEAK; ISSN: 0025-116X

DT Journal

LA Unavailable

CC 10E (Organic Chemistry: Benzene Derivatives)

AB (All phenylene groups were para). At 80° 23.7 g.

3,3''-dimethylterphenyl in 600 cc. AcOH was diluted with H<sub>2</sub>O to turbidity (30 cc.), to this solution at room temperature added 7.5 g. iodine, 3.6 g.

KIO<sub>3</sub>, 8

cc. concentrated H<sub>2</sub>SO<sub>4</sub> and 10 cc. CCl<sub>4</sub>, the mixture stirred at 80° 4 hrs., after removal of most of the solvent in vacuo the product precipitated with

H<sub>2</sub>O,

filtered, and dissolved in C<sub>6</sub>H<sub>6</sub> to leave 1.5 g. 4,4''-diiodo-3,3''-dimethylterphenyl. The C<sub>6</sub>H<sub>6</sub> solution was passed over a column of basic Al<sub>2</sub>O<sub>3</sub> and the product crystallized twice from BuOAc to give 20 g.

4-iodo-3,3''-dimethylterphenyl (I), m. 124°. Similarly, 3,3',2'',3'''-tetramethylquaterphenyl gave 4,4'''-diiodo-3,3',2'',3'''-tetramethylquaterphenyl, m. 59° (EtOAc), and a mixture of 4-iodo-3,3',2'',3'''-tetramethylquaterphenyl and starting material (II). Hydroquinone (200 g.) in 400 cc. MeOH with 10 g. Raney Ni at 130°/100-150 atmospheric H was hydrogenated to 1,4-cyclohexanediol (III). Similarly, toluhydroquinone gave 81% 2-methylcyclohexane-1,4-diol (IV), b0.5 114-25°, 4,4'-dihydroxybiphenyl gave 90% bicyclohexyl-4,4'-diol (V), m. 203-5°, 3,3'-dimethyl-4,4'-dihydroxybiphenyl gave 3,3'-dimethylbicyclohexyl-4,4'-diol (VI), and 2,2'-dimethyl-4,4'-dihydroxybiphenyl gave 2,2'-dimethylbicyclohexyl-4,4'-diol (VII). III (20 g.) in 80 cc. 1:1 AcOH-Ac2O stirred at 5° 3 hrs. with 25 g. CrO3 in 150 cc. Ac2O (Caution! Do not heat to bring about solution), stirred at 25° 12 hrs., the solvent removed in vacuo, the residue extracted with Et2O (Soxhlet), the solid which crystallized from the Et2O solution purified by passing a CH2Cl2 solution over neutral Al2O3, and the solvent removed gave 10 g. 1,4-cyclohexanediol (VIII), m. 78°. In similar oxidns., IV gave 70% 2-methyl-1,4-cyclohexanediol (IX), m. 50° (Et2O), b0.01 70-2°, V gave 73% bicyclohexyl-4,4'-diol (X), m. 114° (C6H6-petr. ether), VI gave 71% 3,3'-dimethylbicyclohexyl-4,4'-diol (XI), b0.2 146-50°, and VII gave 71% 2,2'-dimethylbicyclohexyl-4,4'-diol (XII), b0.1 150-60°. 4-Iodo-3,3'-dimethylbiphenyl (XIII) (20 g.) in 180 cc. Et2O under N was treated with 4.5 g. BuLi at -20°, warmed to room temperature, cooled again to -20°, 6.5 g. 3-methylcyclohexanone in 40 cc. Et2O added dropwise, the whole stirred at room temperature several hrs., and decomposed with H2O. Removal of solvent

left

18.8 g. yellow carbinol, which was dehydrated by boiling with 250 cc. Ac2O to give 7.6 g. 3,2',3''-trimethyltetrahydroterphenyl (XIV), b0.02 140-60°. XIV (6.5 g.) was dehydrogenated with 11.6 g. chloranil by refluxing in 50 cc. xylene 48 hrs. After cooling, the solution was extracted with 2N NaOH and dithionite solution until the aqueous phase remained colorless.

The xylene solution was passed over basic Al2O3 and distilled to give 4 g. 3,2',3''-trimethylterphenyl, b0.001 150-60°, which on treatment with n-hexane gave a solid, m. 50°. By similar procedures XIII and IX gave 3,3',2'',2''',3''''-pentamethyldihydroquinquephenyl, m. 105-15°, and the corresponding quinquephenyl, m. 124-5° (n-hexane), XII and XI gave 3,3',2'',3''',2''''',3''''''-hexamethyloctahydrosexiphenyl and the corresponding sexiphenyl, m. 141-2° (n-hexane), XIII and XII gave 3,3',3'',2''',2''''',3''''''-hexamethyloctahydrosexiphenyl, m. 185-93°, and the corresponding sexiphenyl, m. 140.5°, I and XI gave an octahydrooctaphenyl and 3,3',2'',3''',2''''',3''''''-hexamethyloctaphenyl, m. 194-5° (C6H6-petr. ether), and I and XII gave 3,3',3'',2''',2''''',3''''''-hexamethyloctaphenyl, m. 203° (C6H6-petr. ether). II (5 g.) and 3 g. Cu powder was heated at 230° 1 hr. and then a short time at 270°. Extraction with C6H6, purification of the extract over basic Al2O3, removal of C6H6, and extraction with MeOH left 0.5 g. 3,3',2'',3''',2''''',3''''''-octamethyloctaphenyl, m. 256-9°. Similarly, 4,4'-diiodo-3,3'-dimethylbiphenyl (4.34 g.) and 20.4 g. PhI gave 1.05 g. 2',3''-dimethylquaterphenyl, m. 141°.

IT Ullmann reaction

(in polyphenyl preparation)

IT Polyphenyls

(methyl derivs.)

IT [Bicyclohexyl]-4,4'-diol, 2,2'-dimethyl-

[Bicyclohexyl]-4,4'-diol, 3,3'-dimethyl-

IT 556-48-9, 1,4-Cyclohexanediol 612-84-0, 4,4'-Bi-o-cresol 637-88-7, 1,4-Cyclohexanediol 4575-14-8, p-Sexiphenyl, 2'',2''''',3,3',3''',3''''''-

STN search for 10665009

hexamethyl- 5108-26-9, p-Quinquephenyl, 2'',2''',3,3',3''''-pentamethyl-  
5575-76-8, p-Octiphenyl, 2'',2''',2''''',3,3',3''',3''''',3''''''-  
octamethyl- 6021-54-1, p-Terphenyl, 2',3,3''-trimethyl- 13742-19-3,  
1,4-Cyclohexanedione, methyl- 20601-38-1, [Bicyclohexyl]-4,4'-  
diol 23391-99-3, [Bicyclohexyl]-4,4'-dione 59517-19-0,  
4,4'-Bi-m-cresol 60793-35-3, 1,4-Cyclohexanediol, 2-methyl-  
70663-77-3, p-Quaterphenyl, 4,4''-diiodo-2'',3,3',3''''-tetramethyl-  
107014-26-6, p-Quaterphenyl, 2',3''-dimethyl- 110151-91-2, m,m'-Bitolyl,  
4-(5-methyl-1-cyclohexen-1-yl)- 111617-41-5, p-Quaterphenyl,  
4-iodo-2'',3,3',3''''-tetramethyl- 113057-36-6, [Bicyclohexyl]-4,4'-  
dione, 2,2'-dimethyl- 114224-63-4, p-Terphenyl, 4-iodo-3,3''-dimethyl-  
120746-08-9, p-Octiphenyl, 2''',2''''',3,3'',3''''',3''''''-hexamethyl-  
120747-29-7, p-Octiphenyl, 2''''',2''''''',3,3''',3''''',3''''''-hexamethyl-  
120830-50-4, p-Sexiphenyl, 2''',2''''',3,3'',3''',3''''''-hexamethyl-  
121622-41-1, p-Terphenyl, 4,4''-diiodo-3,3''-dimethyl- 121656-11-9,  
Bicyclohexenyl, 4,4'-bis(3,3''-dimethyl-4-biphenyl)-2,2'-dimethyl-  
121656-13-1, Bicyclohexenyl, 4,4'-bis(3,3''-dimethyl-4-biphenyl)-3,3''-  
dimethyl- 121993-42-8, Cyclohexadiene, 1,4-bis(3,3''-dimethyl-4-  
biphenyl)-2-methyl- 132494-68-9, [Bicyclohexyl]-4,4'-dione,  
3,3''-dimethyl-  
(preparation of)

L8 ANSWER 35 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1955:32193 CAPLUS

DN 49:32193

OREF 49:6147c-i,6148a-i,6149a-e

ED Entered STN: 22 Apr 2001

TI Steroid analogs lacking ring C. IV. 4-(cis-4-Hydroxycyclohexyl)cyclohexano  
ne. Configurations of the bicyclohexyl-4,4'-diols

AU Wilds, A. L.; Pearson, Tillmon H.; Hoffman, Carl H.

CS Univ. of Wisconsin, Madison

SO Journal of the American Chemical Society (1954), 76, 1737-40

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

CC 10 (Organic Chemistry)

OS CASREACT 49:32193

AB IV, formed in only 1-3% yield by the hydrogenation of I, has been obtained  
in 29-31% yield from V using aged W-2 Raney Ni. The oxidation of IV as  
the monobenzoate afforded a good route to the cis-isomer (XIII) of VI. A  
similar sequence of reactions with III gave VI, as did the partial  
oxidation of III. The selective hydrolysis of X followed by oxidation  
yielded XIII. These transformations established the configuration of III.  
XIII and VI were each converted to the ethylene mercaptol benzoate and  
desulfurized to the derivative of cis- (XIV) and trans-4-  
cyclohexylcyclohexanol (XV), resp., on the basis of the configurations  
assigned to XV by Ungnade (C.A. 45, 159i), the above assignments were made  
to the diols and HO ketones. These configurations are in accord with  
other considerations, including polar-equatorial conformational analysis.  
VII (17.6 g.), m. 162.5-4.5°, 120 cc. dioxane, and 4 g. Cu-Cr oxide  
catalyst shaken 2 hrs. at 250° with H at 5200 lb. pressure, 4 g.  
fresh catalyst added, the mixture shaken again 22 hrs., and the product  
crystallized from EtOH gave 2.71 g. (21%) II, m. 200-7° with sintering  
at 185°; the remaining material separated as the dibenzoates indicated  
the total yield of II to be 45%, with only 5% IV, the remainder being III  
(all m.ps. are corrected). V (5 g.), 21 g. CH<sub>2</sub>:CMeOAc, and 0.15 g.  
p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H distilled slowly 1 hr. through a column with the temperature of

the

distillate rising from 58° to 60°, the residue cooled, and  
the resulting solid washed in CHCl<sub>3</sub> with aqueous NaHCO<sub>3</sub> and recrystd. from

EtOAc yielded 4.64 g. bis(enol acetate) (XVI) of V, m. 146-54.5°, and 1.58 g. XVI, m. 144-50° (total 87%); XVI was a mixture of the diastereoisomers, which could not be separated by recrystn. from EtOAc or EtOAc-petr. ether, but showed a rise of the m.p. to 151.5-58°. XVI (399 mg.) heated 1 hr. with 25 cc. 1.2N HCl and 10 cc. EtOH and the product crystallized from EtOAc-petr. ether yielded 125 mg. V m. 115-16° and 106 mg. m. 113-15.5° (83% total recovery). XVI (1.84 g.), m. 145-53.5°, in 50 cc. dioxane hydrogenated 18 hrs. at 35 lb. pressure over 3 teaspoonfuls W-2 Raney Ni (1 week old), and the product crystallized from EtOAc-petr. ether gave 0.265 (14%) diacetate of II, m. 128-38° with sintering from 80°, which, hydrolyzed with alkali, yielded 100% II, m. 211-15°; the material from the mother liquor saponified and treated in the usual manner with BzCl gave 0.12 g. (5%) crude VIII, m. 185-208°, together with a mixture of isomers, m. 120-95°. V (14.2 g.) in 180 cc. MeOH shaken 20 hrs. at room temperature with 6 teaspoonfuls W-2 Raney Ni (7 weeks old) under H at 40 lb. pressure, the mixture filtered, evaporated, the residual crude diol mixture dissolved in

70

cc. dioxane, the solution refluxed 4.5 hrs. with 37 cc. BzCl and 50 cc. dry pyridine, and the resulting product in CHCl<sub>3</sub> washed with dilute acid, aqueous NaHCO<sub>3</sub>, and H<sub>2</sub>O, and recrystd. from CHCl<sub>3</sub> and then from EtOAc-petr. ether gave the following fractions: A, 9.51 g., m. 150-75°; B, 1.68, m. 156-62.5° with sintering at 140°; C, 4.88 g., m. 93-125° (trace of solid up to 165°); D, 3.78 g., m. 90-120° (with solid to 169°); and [E, 2.26 g., m. 45-115°. The residual material saponified gave 1.42 g. (10%) III, m. 165-72°. Fraction A extracted 5 times in a Soxhlet apparatus with pert. ether (b. 30-60°) each time for 1.5 hrs., and the residue from the extract recrystd. from CHCl<sub>3</sub>-EtOAc gave 2.20 g. (7%) VIII, m. 200-13°, followed by 2.61 g. IX, m. 156-65°; the crude IX combined with fraction B and the solids obtained by cooling the 3rd and 4th exts. from fraction A (0.50 g., m. 156-62°) and recrystd. from MeOH-CHCl<sub>3</sub> gave 4.21 g. IX, m. 157-64°, which on recrystn. yielded 3.62 g. (12%) pure IX, m. 161.55.5° The other fractions (C to E) fractionally recrystd. gave material m. 150-60° (some solid to 180°), which was a mixture of IX and VIII, and material m. 90-6° (some solid up to 150°), which was X containing some IX. The IX-VIII mixture triturated with C<sub>6</sub>H<sub>6</sub> at room temperature, and filtered to remove the VIII, the filtrate evaporated, the residue recrystd. from MeOH-CHCl<sub>3</sub>; the X-IX mixture extracted

1 hr.

with petr. ether in a Soxhlet apparatus to remove the III, and the residue, m. 95-145°, recrystd. again gave 2.25 g. IX, m. 160-4.5°, and 2.87 g. m. 145-61°, resp. (total 31%); an addnl. 0.39 g. VIII, m. 201-6°, 4.08 g. X, m. 94-8°, and 2.58 g. m. 92-6°, made the total yield of X 32%. W-6 Raney Ni (stored 7 weeks at 10° under absolute EtOH) gave in a similar run 18% VIII and 17% IX; W-6 Raney Ni (stored 3 years at 10°) gave 7% VIII, and 21% IX; in each case the remaining material was mainly X. W-2 Raney Ni gave at 1800 lb. pressure and room temperature 15% VIII and 11% IX in addition to the X. The mixts. of

the

dibenzoates could also be separated partially by adsorption and fractional elution from Al<sub>2</sub>O<sub>3</sub> IX was eluted first, followed by X and then VIII. IV (5.18 g.) in 50 cc. dry dioxane heated 2 hrs. with 4.79 g. BzCl in 30 cc. dioxane, most of the solvents removed, the residue treated with H<sub>2</sub>O and CHCl<sub>3</sub> and filtered to give 1.51 g. (29%) unreacted IV, m. 185-96°, the CHCl<sub>3</sub> layer washed with dilute acid, evaporated, and the residual oil triturated with 25 cc. MeOH and filtered gave 1.90 g. (18%) IX, m. 156-60°; the filtrate evaporated and the residual oil crystallized from petr. ether-EtOAc gave 2.87 g. monobenzoate (XVII) of IV, m. 84-8°, and 0.36 g. XVII, m. 75-85° (total 41%). XVII (1.57 g.), m.

80-8°, treated 12 hrs. at 25° with 400 mg.  $\text{CrO}_3$  in 190 cc. AcOH and 3 cc.  $\text{H}_2\text{O}$  gave 79% benzoate (XVIII) of XIII, m. 74-6°; recrystd. from petr. ether-EtOAc, needles, m. 76.5-77°. XVIII (554 mg.) and 25 cc. 5% KOH in MeOH refluxed 1 hr., the mixture just acidified with HCl, treated with aqueous  $\text{NaHCO}_3$ , extracted with  $\text{CHCl}_3$ , and the residue from the extract crystallized from EtOAc-petr. ether gave 336 mg. XIII, m. 92-3°, and 9 mg. XIII, m. 81-7° (total 95%), which, recrystd. from EtOAc, gave fluffy plates, m. 92.5-3.5°. VI, m. 127.5-9.5°, was obtained similarly in 94% yield. III (1.00 g.), m. 175-7°, treated during 1 hr. with 0.37 g.  $\text{CrO}_3$  in 50 cc. AcOH and 4 cc.  $\text{H}_2\text{O}$ , the mixture kept 18 hrs. at 10°, and the crude product crystallized from C<sub>6</sub>H<sub>6</sub> gave 116 mg. recovered III, m. 170-3°; the residue chromatographed on 30 g. acid-washed  $\text{Al}_2\text{O}_3$  and eluted with C<sub>6</sub>H<sub>6</sub> gave 10 mg. oil in fractions 1-3; 172 mg. (18%) nearly pure V, m. 113-15°, in fractions 4-13; and from fractions 14-44 (eluted with C<sub>6</sub>H<sub>6</sub>, C<sub>6</sub>H<sub>6</sub>-Et<sub>2</sub>O, and Et<sub>2</sub>O) less pure material which, recrystd. from  $\text{CCl}_4$  or  $\text{CCl}_4$ -EtOAc, yielded 252 mg. VI m. 129-30° and 77 mg. m. 123-29° (total 33%); later eluates gave an addnl. 20 mg. III, m. 173-5° (with previous softening). III (1.00 g.), m. 175-7°, in 10 cc. dry pyridine refluxed 2.5 hrs. with 0.6 cc.  $\text{BzCl}$ , the mixture extracted with  $\text{CHCl}_3$ , the extract washed, dried, and evaporated, and the residue digested with 10 cc. hot  $\text{CCl}_4$  and filtered gave 0.28 g. (28%) recovered III, m. 174-7°; the remaining oil crystallized from petr. ether (b. 60-8°) gave 0.33 g. crude trans-monobenzoate (XIX) of III, m. 109-11°, which crystallized from petr. ether containing a small amount of EtOAc yielded 0.23 g. (15%) pure XIX, m. 121-2°, recrystg. from petr. ether or cyclohexane in rosettes of colorless needles, m. 121.5-2.5°. XIX (154 mg.) oxidized with  $\text{CrO}_3$  gave 87% XII, m. 150-2°. X (205 mg.), m. 95-7.5°, and 10 cc. 0.05N KOH in MeOH refluxed 1 hr., the mixture concentrated, just acidified, treated with aqueous  $\text{NaHCO}_3$ , extracted with  $\text{CHCl}_3$ , the extract evaporated, and the residual oil triturated with petr. ether gave 74 mg. cis-monobenzoate (XX) of III, m. 60-5°; the solid XX treated with hot cyclohexane gave a trace of III, m. 165-76°, in the insol. fraction, and from the solution still impure XX, m. 59-70°; the impure XX chromatographed on  $\text{Al}_2\text{O}_3$ , gave some X in the 1st fractions eluted with C<sub>6</sub>H<sub>6</sub>, and about 30% XX, m. 64-73° (from cyclohexane); from fractions 15-18 eluted with 1% MeOH in Et<sub>2</sub>O, XX (109 mg.) oxidized in AcOH with  $\text{CrO}_3$  and the product recrystd. from petr. ether and petr. ether-EtOAc gave a few mg. V, m. 110-14°, and 59% XVIII, m. 72-5°.  $\text{PhCH}_2\text{SH}$  (2 cc.) added slowly to 410 mg. VI, m. 129-30°, 1 g.  $\text{Na}_2\text{SO}_4$ , and 1 g. freshly fused, powdered  $\text{ZnCl}_2$  with shaking and cooling, the mixture allowed to stand 3 days at room temperature, triturated with C<sub>6</sub>H<sub>6</sub> and Et<sub>2</sub>O, the combined solns. washed with dilute aqueous NaOH, dried, evaporated, and the residual product crystallized from C<sub>6</sub>H<sub>6</sub> gave 404 mg. (45%) white needles, m. 143-6°, and 622 mg. residual oil; the solid further recrystd. gave pure dibenzyl mercaptole (XXI) of VI, m. 149-51.5°. XXI (368 mg.), m. 143-6°, in 20 cc. absolute EtOH and 20 cc. C<sub>6</sub>H<sub>6</sub> refluxed 6 hrs. with about 5 g. W-2 Raney Ni, the mixture cooled, filtered, concentrated, and the residue (153 mg., 97%), m. 93-8°, recrystd. from petr. ether gave material m. 98-100°, and left 11 mg. (6%) II, m. 209-12°, undissolved; the combined petr. ether solns. evaporated, and the residue sublimed at 100-20°/0.2 mm. and crystallized from petr. ether gave 7 mg. unidentified material, m. 150-60°, 68 mg. XV, m. 102-3° (thin white needles), and an

addnl. 16 mg. XV, m. 100-2.5° (total 53%); the remaining oil (12 mg.) gave 5 mg. phenylurethan derivative, m. 155-7°. XII, m. 151-3° (1.22 g.), in 75 cc. glacial AcOH and 15 cc. conductivity HCl treated with 0.42 g. (CH<sub>2</sub>SH)<sub>2</sub> in 1 portion, the mixture allowed let stand overnight, chilled in ice, filtered, and the residue washed with cold MeOH gave 1.43 g. (94%) trans-4-hydroxy-4'-(ethylenedithio)bicyclohexyl benzoate (XXII) m. 143.5-45°; recrystd. from EtOAc-petr. ether and MeOH-CHCl<sub>3</sub>, thin plates, m. 144.6-5.4°. XXII (1.04 g.), m. 144.5-5.5°, 4 teaspoonfuls W-6 Raney Ni, and 50 cc. pure dioxane refluxed 5 hrs., the mixture filtered, the filtrate evaporated in vacuo, and

the

residual oil crystallized from aqueous EtOH gave 714 mg. (88%)

hexahydrobenzoate of

XV, m. 61-6°; recrystd., fluffy needles, m. 74.1-4.7°. All the filtrates and material from the desulfurization run combined (except 83 mg. analytical sample), recrystd. from aqueous EtOH, the resulting 326 mg. material, m. 65-70.5°, saponified with 25 cc. KOH in MeOH, and the product recrystd. from petr. ether gave 117 mg. XV, m. 102.5-104°; saponification of the filtrates gave an addnl. 154 mg. XV, m. 103-4.5° (total 60%); the residue (74 mg.) gave 87 mg. (11%) phenylurethan derivative, m. 154-6°. XVIII (964 mg.) gave with (CH<sub>2</sub>SH)<sub>2</sub> 802 mg. cis-isomer (XXIII) of XXII, m. 75.5-77° (from petr. ether), and 74 mg., m. 74-6° (total 72%); recrystd., plates, m. 76-7°. XXIII (345 mg.) in 10 cc. dioxane heated 7 hrs. with 1.5 teaspoonfuls Raney Ni, the resulting oily product saponified, and the neutral portion (191 mg.) triturated with petr. ether gave 67 mg. impure XIV, m. 82-8°; the crude XIV and the remaining oil gave 158 mg. (57%) phenylurethan derivative, m. 109-11°.

IT Oxidation

(of [bicyclohexyl]-4,4'-diol benzoate)

IT Hydrogenation

(of [bicyclohexyl]-4,4'-diol diacetate and related compds.)

IT 1,4-Dithiaspiro[4.5]decane, 8-(4-hydroxycyclohexyl)-, benzoates  
1,4-Dithiaspiro[4.5]decane, 8-(4-hydroxycyclohexyl)-, cis-  
1,4-Dithiaspiro[4.5]decane, 8-(4-hydroxycyclohexyl)-, trans-  
Cyclohexanecarboxylic acid, 4-cyclohexylcyclohexyl ester  
Cyclohexanol, 4-(1,4-dithiaspiro[4.5]dec-8-yl)-, cis-, benzoate  
Cyclohexanol, 4-(1,4-dithiaspiro[4.5]dec-8-yl)-, trans-, benzoate  
Cyclohexanol, 4-[4,4-bis(benzylthio)cyclohexyl]-

IT Cyclohexanone, 4-(4-hydroxycyclohexyl)-  
(stereoisomers, and derivs.)

IT 7335-11-7, Cyclohexanol, 4-cyclohexyl-, cis- 7335-42-4, Cyclohexanol,  
4-cyclohexyl-, trans-  
(and derivs.)

IT 23391-99-3, [Bicyclohexyl]-4,4'-dione  
(hydrogenation of)

IT 408520-46-7, [Bi-3-cyclohexen-1-yl]-4,4'-diol, diacetate  
(preparation of)

IT 20601-38-1, [Bicyclohexyl]-4,4'-diol  
(stereoisomers, and derivs.)

L8 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1955:32192 CAPLUS

DN 49:32192

OREF 49:6145d-i,6146a-i,6147a-c

ED Entered STN: 22 Apr 2001

TI Steroid analogs lacking ring C. III. Synthesis of 4-(trans-4-hydroxycyclohexyl)cyclohexanone

AU Wilds, A. L.; Shunk, Clifford H.; Hoffman, Carl H.

CS Univ. of Wisconsin, Madison



SO Journal of the American Chemical Society (1954), 76, 1733-6  
CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

CC 10 (Organic Chemistry)

OS CASREACT 49:32192

AB cf. C.A. 46, 4513e. The reduction of (p-HOC<sub>6</sub>H<sub>4</sub>)<sub>2</sub> (I) yielded the trans,trans- (II), cis,trans- (III), and cis,cis-bicyclohexyl-4,4'-diol (IV). The oxidation of the pure isomers or the mixture gave bicyclohexyl-4,4'-dione (V), which was partially reduced to 4-(trans-4-hydroxycyclohexyl)cyclohexanone (VI). Better methods for synthesizing VI involved the partial oxidation of II directly or as the monobenzoate. Tech. (p-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>)<sub>2</sub> (200 g.) in 210 cc. concentrated HCl and 2150 cc. hot H<sub>2</sub>O cooled to 25°, the suspension treated with an addnl. 235 cc. HCl, cooled, and treated with stirring below 10° with 151 g. NaNO<sub>2</sub> in 450 cc. H<sub>2</sub>O, the mixture stirred 20 min., treated with 1 g. urea, added at 85-90° to 215 cc. H<sub>2</sub>SO<sub>4</sub> in 4300 cc. H<sub>2</sub>O, heated 10 min., cooled, filtered, the solid residue dried, added to 400 cc. Ac<sub>2</sub>O, the mixture refluxed 3 hrs., cooled, filtered, and the resulting crude product distilled at 0.1-0.5 mm. and recrystd, from C<sub>6</sub>H<sub>6</sub> gave 159 g. (p-AcOC<sub>6</sub>H<sub>4</sub>)<sub>2</sub> (VII) nearly colorless crystals, m. 161-2.5°, and an addnl. 12.0 g., m. 160-2°; the Ac<sub>2</sub>O filtrate worked up and the material distilled and recrystd. gave an addnl. 40-50 g. VII, m. 158-60° (total yield 62-5%); analytical sample, m. 163-4°. The filtrates yielded 3-4% 2,4'-diacetoxybiphenyl, m. 99.5-101° (all m.ps. are corrected). VII (75 g.) suspended in 200 cc. EtOH and treated during 5 min. with 22 g. NaOH in 50 cc. H<sub>2</sub>O, the suspension heated 0.5 hr., diluted with 750 cc. H<sub>2</sub>O, acidified with 1: 1 HCl, the mixture digested 1 hr. on the steam bath, cooled, filtered, and the filter cake washed and dried at 80° gave 50-1 g. (97-9%) I, m. 279-82°; recrystd. from EtOH, shiny white leaves, m. 279.5-81.5° to 282-4° (in various crops). I (1.86 g.) in 15 cc. H<sub>2</sub>O, 15 cc. dioxane and 10 cc. 1.13N NaOH shaken 6 min. at 5° with 1.25 g. BzCl, and the mixture diluted yielded 2.36 g. (90%) monobenzoate of I, m. 228-30° with softening at 220°; analytical sample, m. 234.5-36° (from Me<sub>2</sub>CO, C<sub>6</sub>H<sub>6</sub>, and then EtOH). I treated with excess BzCl in hot dioxane and pyridine yielded 88% dibenzoate, colorless, wedge-shaped platelets, m. 250.5-1.5° (from dioxane). I (34 g.) hydrogenated 2-12 hrs. (depending on the quality and age of the catalyst) in 200 cc. absolute EtOH at 150-200° and 2000-3800 lb. pressure over 3 teaspoonfuls W-2 Raney Ni, the catalyst and the solvent removed, and the residue digested with 300 cc. hot 5% aqueous NaOH, cooled, filtered, and washed gave up to 97% crude mixture of 4,4'-bicyclohexyldiols, m. 170-200°. The crude mixture crystallized from a large amount EtOH gave 12-22% II, m. 212-14°, giving on recrystn. from EtOH-C<sub>6</sub>H<sub>6</sub> the pure II, shiny plates, m. 214-15.5°. Attempts to obtain more pure II by direct crystallization gave only a mol. compound of II and III, m. 182-3°. In a similar run with W-6 Raney Ni for which the H uptake was only 75%, digestion of the crude product with hot 5% aqueous NaOH gave from the aqueous layer on acidification 7% phenolic material, m. 196-208°, which, sublimed at 140°/0.1 mm. and recrystd. from EtOAc and EtOH gave 4-(4-hydroxycyclohexyl)phenol, presumably the trans isomer, m. 222.5-3.5°. The remaining mixture of the isomers (about 30 g. after removal of the II) dissolved in 150 cc. dioxane and 90 cc. dry pyridine, treated at reflux with 80 g. BzCl, heated 2 hrs., most of the solvents removed in vacuo, the residue dissolved in C<sub>6</sub>H<sub>6</sub> and CHCl<sub>3</sub>, the solution allowed to stand, the precipitated trans-trans dibenzoate (VIII) of II filtered off, and the warm filtrate washed with warm aqueous Na<sub>2</sub>CO<sub>3</sub>, dilute acid, and H<sub>2</sub>O, concentrated, and cooled gave more VIII, m.

from 195-206° to 209-11°, bringing the total yield (together with II above) to 37-43%. VIII crystallized from C<sub>6</sub>H<sub>6</sub> with solvent of crystallization (1.0-1.5 mols.) and, when dried at 70°, changed to a white powder, m. 211-12°. The mother liquors evaporated, and the residue triturated with 300 cc. Et<sub>2</sub>O gave about 5% crude dibenzoate (IX) of IV, m. 144-50°; the filtrate concentrated to about 60 cc. gave fractions containing crude dibenzoate (X) of III, m. 93-140°, which, recrystd. several times from petr. ether, C<sub>6</sub>H<sub>6</sub>-petr. ether, or EtOAc, gave 12-23% X, m. 96-8°; analytical sample, m. 97-8°. The filtrate from the crude X gave some addnl. material, m. 93-142°, and 150-80°; the higher-melting solid combined with the fraction m. 144-50° and fractionated from C<sub>6</sub>H<sub>6</sub> gave 3% nearly pure IX, m. 159-63°, 156-62°; analytical sample, m. 164-5°; in other runs less than 0.5% IX was isolated. VIII (23.2 g.), m. 205-11°, refluxed 5 hrs. with 12 g. KOH in 300 cc. MeOH and 20 cc. H<sub>2</sub>O, and the clear solution diluted with 200 cc. H<sub>2</sub>O, filtered hot, and cooled yielded 10.3 g. (100%) II, m. 212-15°; analytical sample, m. 215-16°. X (14.8 g.) saponified similarly gave 7.20 g. (100%) III, m. 175-7°; analytical sample, m. 176-578°. IX (1.21 g.), m. 164-5°, refluxed 5 hrs. with 2 cc. H<sub>2</sub>O and 35 cc. MeOH yielded 0.58 g. (98%) IV, m. 191-4°; analytical sample, m. 196-7° (from EtOAc). After the 1st crops of II were removed from the mixture of isomers (obtained by the hydrogenation of I), the subsequent crops, m. from 175-9° to 181-3°, recrystd. from EtOAc gave the mol. compound of II and III, m. 182.5-3.5°, containing a 1:2 ratio of II:III. Crude bicyclohexyldiol (81 g.), m. 145-93°, in 500 cc. AcOH treated with stirring and cooling at 10-15° during 2 hrs. with 110 g. CrO<sub>3</sub> in 500 cc. AcOH and 80 cc. H<sub>2</sub>O, kept 1 hr. at 15-20°, treated with 550 cc. iso-PrOH, allowed to stand overnight, concentrated in vacuo, the sirupy residue treated with CHCl<sub>3</sub>, H<sub>2</sub>O, and HCl, extracted several times with CHCl<sub>3</sub>, the extract washed with dilute acid, aqueous NaHCO<sub>3</sub> and H<sub>2</sub>O, dried with Na<sub>2</sub>SO<sub>4</sub>, evaporated, and the residue recrystd. from CCl<sub>4</sub> yielded 51.6 g. V, m. 113.5-15.5°, and an addnl. 6.3 g., m. 109-14° (total 73%). II (1.0 g.), m. 213-14.5°, oxidized similarly gave 95% V [analytical sample, needles, m. 115-16° (from Me<sub>2</sub>CO-petr. ether)], yielding on heating 45 min. in EtOH-pyridine 98% of a disemicarbazone, m. 248-9°, which was purified by digesting with hot H<sub>2</sub>O and EtOH. II (5.0 g.), m. 212-14.5°, dissolved in 50 cc. hot AcOH, the solution cooled. diluted with stirring with 25 cc. H<sub>2</sub>O, the suspension diluted with 50 cc. CHCl<sub>3</sub>, treated during 45 min. with stirring and cooling at 13-15° with 2.05 g. CrO<sub>3</sub> in 10 cc. H<sub>2</sub>O, stirred overnight at room temperature, diluted with 300 cc. H<sub>2</sub>O, and filtered gave 1.80 g. (36%) recovered II, m. 212-14°; the filtrate treated with HCl, extracted repeatedly with CHCl<sub>3</sub>, the extract washed with acid, aqueous NaHCO<sub>3</sub>, and H<sub>2</sub>O, dried with Na<sub>2</sub>SO<sub>4</sub>, evaporated, the residue digested with 60 cc. boiling CCl<sub>4</sub>, filtered to remove an addnl. 0.22 g. (4%) crude II, m. 180-90°, and the filtrate concentrated gave 1.27 g. VI m. 124-6°, and 0.37 g. m. 116-20°; the 2nd crop recrystd. gave 0.30 g. pure VI, m. 124.5-5.5°. V (8.31 g.), m. 114.5-16°, in 70 cc. EtOH and 7.5 cc. glacial AcOH stirred 10 hrs. with 205 mg. PtO<sub>2</sub> under H while 2 portions of 202 and 203 mg. PtO<sub>2</sub>, resp., were added when the rate diminished, the solution filtered, evaporated, and the residue chromatographed on 200 g. Al<sub>2</sub>O<sub>3</sub> and eluted with C<sub>6</sub>H<sub>6</sub> and 1:1 C<sub>6</sub>H<sub>6</sub>-Et<sub>2</sub>O gave, from the 1st 12 fractions 37% recovered V, m. 114.5-15.5°, and from the next 8 fractions (1:1 C<sub>6</sub>H<sub>6</sub>-Et<sub>2</sub>O to pure Et<sub>2</sub>O) 2.10 g. material recrystd. from EtOAc-Et<sub>2</sub>O, yielding 0.486 g. VI, m. 127.5-29°; 0.336 g. VI, m. 125-7.5° with sintering at

111°, and 0.054 g. VI, m. 131-7° with sintering at 97° (total 11%); further elution gave mixts. of the diols, m. from 95-135° to 165-80°. II (6.84 g.), m. 215-16°, in 500 cc. refluxing, dry dioxane and 47 cc. dry pyridine treated with stirring during 25 min. with 6.05 g. BzCl in 50 cc. dry dioxane, the mixture heated 2 hrs., most of the solvent distilled off, the residue diluted with H<sub>2</sub>O, filtered, the filter residue dried and digested with 340 cc. hot CCl<sub>4</sub>, cooled to room temperature, filtered to remove 1.66 g. (24%) II, m. 202-13°, the filtrate evaporated to dryness, and the residue triturated with 75 cc. MeOH with slight warming, cooled to room temperature, and filtered yielded 3.01 g. (22%) VIII, m. 188-207°; the remaining material recrystd. from EtOAc-petr. ether gave 3.08 g. monobenzoate (XI) of II, m. 159-60°, and 1.29 g. XI, m. 154-7° (total 42%); analytical sample, m. 158.5-59° (from CCl<sub>4</sub>). XI (4.38 g.), m. 159-60°, in 440 cc. AcOH allowed to stand 42 hrs. at room temperature with 1.11 g. CrO<sub>3</sub> in 85 cc. AcOH and 5 cc. H<sub>2</sub>O, the mixture diluted with 200 cc. iso-PrOH, most of the solvent removed in vacuo, the residue extracted with CHCl<sub>3</sub>, and the residue from the extract recrystd. from petr. ether-EtOAc yielded 3.57 g. benzoate (XII) of VI, m. 151-3°, and 0.52 g. XII, m. 150-2.5° (total 94%); analytical sample, m. 152-3°. VI (50 mg.), m. 129-30°, heated 2 hrs. in 2 cc. CHCl<sub>3</sub> and 0.5 cc. pyridine with 0.1 cc. BzCl, the mixture allowed to stand overnight, and the product in CHCl<sub>3</sub> washed and then recrystd. from CHCl<sub>3</sub> gave 59 mg. (77%) XII, m. 148-50°, recrystg. from EtOAc-petr. ether in needles, m. 151.5-2.5°.

## IT Steroids

(analogs of, lacking C ring)

IT Cyclohexanol, 4-(p-hydroxyphenyl)-, trans-  
Cyclohexanone, 4-(4-hydroxycyclohexyl)-, benzoate  
Cyclohexanone, 4-(4-hydroxycyclohexyl)-, trans-  
[Bicyclohexyl]-4,4'-dione, disemicarbazone  
o,p'-Biphenol, diacetate

IT 92-88-6, p,p'-Biphenol  
(and derivs.)

IT 23391-99-3, [Bicyclohexyl]-4,4'-dione  
(preparation of)

IT 20601-38-1, [Bicyclohexyl]-4,4'-diol  
(stereoisomers, and derivs.)

L8 ANSWER 37 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1953:41379 CAPLUS

DN 47:41379

OREF 47:6979i,6980a-b

ED Entered STN: 22 Apr 2001

TI γ,δ-Bis(carboxymethyl) suberic acid

IN Hentrich, Winfried

PA Deutsche Hydrierwerke A.-G.

DT Patent

LA Unavailable

NCL 120; 11

CC 10 (Organic Chemistry)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 849242		19520911	DE	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 849242	NCL	120

AB Oxidizing [bicyclohexyl]-4,4'-diol (I) with HNO<sub>3</sub> in the presence of

STN search for 10665009

oxidation catalysts (V or Mo salts), preferably at 30-50°, gives diadipic acid,  $[HO_2CCH_2CH_2CH(CH_2CO_2H)]_2$ , (II). Diazotizing (p-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>, boiling, and perhydrogenating the resulting (p-HOC<sub>6</sub>H<sub>4</sub>)<sub>2</sub> yields I. Adding 65 I in small portions to 60% HNO<sub>3</sub>, 400, water 44, and NH<sub>4</sub> vanadate 0.4 parts by weight at 30-8°, stirring the mixture 5 hrs. at 35°, and sucking off the almost colorless precipitate washing it with ice water, and recrystg. it from water with addition of animal C, gives 70-5% II, which can be separated by fractional crystallization into 2 isomeric compds., m. 195-6° and 203-5°; tetra Et ester, saponification number 553 (calculated 557).

- IT Oxidation  
(of [bicyclohexyl]-4,4'-diol)
- IT Acetic acid, (1,1-dimethylethylenedinitrilo)tetra-  
Acetic acid, (1,1-dimethylethylenedinitrilo)tetra-, tetrasodium salt  
Acetic acid, (1,2-dimethylethylenedinitrilo)tetra-, tetrasodium salt  
Acetic acid, (1,2-diphenylethylenedinitrilo)tetra-  
Acetic acid, (1,2-diphenylethylenedinitrilo)tetra-, tetrasodium salt  
Octanedioic acid, 4,5-bis(carboxymethyl)-, tetraethyl ester
- IT 20601-38-1, [Bicyclohexyl]-4,4'-diol  
(oxidation of)
- IT 2458-58-4, Acetic acid, (1,2-dimethylethylenedinitrilo)tetra-  
16466-64-1, Octanedioic acid, 4,5-bis(carboxymethyl)-  
(preparation of)
- IT 75-13-8, Isocyanic acid  
(tert-alkyl esters)

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
106.26	158.12

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-25.90	-25.90

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STN INTERNATIONAL LOGOFF AT 13:50:24 ON 28 OCT 2004